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ABSTRACT

The study, which analyzes present and projected physician manpower in New York State, finds New York's physician to population ratio to be the highest of all U.S. States (193 per 100,000 population), but total physician supply to be neither sufficiently large nor equitably distributed to meet patient demand. Foreign and U. S. born graduates of foreign medical schools (FMGs) are critically examined, and it is suggested that ways be found to decrease the number of FMGs practicing in the State. The study surveys medical education in the State, reports favorably on the location and distribution of existing schools and their close alliance with teaching hospitals, and suggests expanding both undergraduate and graduate medical education. The supply and demand for physicians in the State through the year 2000 is projected in graphical form with respect to various assumptions and hypothetical growth rates, with the conclusions that the major need is for primary care physicians, that 260 physicians per 100,000 population is achievable by 1990, and that with expanded medical education and with major increments in the number and capability of physician extenders, reliance on FMGs could be reduced substantially without reducing physician services. Three pages of conclusions and 31 recommendations are included. (JR)

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INTERIM REPORT AND SYNOPSIS OF THE FINDINGS TO DATE OF THE REGENTS TASK FORCE ON MEDICAL SCHOOL ENROLLMENT AND PHYSICIAN MANPOWER TO THE REGENTS OF THE UNIVERSITY OF THE STATE OF NEW YORK

CE 003 701

Regents Task Force on Medical School Enrollment and Physician Manpower
Room 1847 - 99 Washington Avenue
Albany, New York 12230

October, 1974

TASK FORCE MEMBERS

Jackson W. Riddle, Ph.D., M.D., Chairman
Executive Secretary
State Board for Medicine
New York State Education Department

Douglas S. Damrosch, M.D.
Director
The Associated Medical Schools of New York
and New Jersey

Julia L. Freitag, M.D.
Director
Office of Medical Manpower
New York State Department of Health

Norman A. Mercer, Ph.D.
Coordinator for State Aid to Non-Public
Colleges
New York State Education Department

Donald J. Merwin, M.A.
Project Director
National Health Council

Alvin M. Mesnikoff, M.D.
Director
South Beach Psychiatric Center
New York State Department of Mental Hygiene

Thomas W. Mou, M.D.
Provost for the Health Sciences
State University of New York

Donald D. Walker, M.D.
Assistant Commissioner for Health Manpower
New York State Department of Health

STAFF DIRECTOR

Rima E. Bostick, M.P.A.

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The Regents Task Force expresses its gratitude to a charitable foundation, which desires to remain anonymous, for its grant of $10,000 which has helped support this study.

We are grateful also to the State University of New York for its generosity in loaning the services of Rima Bostick, our knowledgeable and efficient staff director, and the Department for her secretary, Isabelle Kennedy; without their assistance this project could not have been completed in twice the time.

Our sincere appreciation also goes to all persons in State departments, and in governmental agencies and professional organizations who have shared their data so generously with us, and to those members of the Education Department who assisted in the analysis and tabulations.

Lastly, we wish to thank the deans of our twelve medical schools, for their patience with our needs for information of all kinds, and particularly for their participation, at our request, in a probing and expensive analysis of the costs of educating a future physician.

It is our hope that the information and recommendations contained herein and in our final report will ease the financial plight of the medical schools, will enable them to graduate more physicians with training in those fields of medicine most required by the citizens of New York State, and will improve both the quality and the distribution of medical care available in this State.

J.W.R.
October 1974

TABLE OF CONTENTS

	Page
Acknowledgements	iii
Foreword	1
Excerpts from the Charge to the Task Force by T. Edward Hollander, July 30, 1973	4
Analysis of the Supply of Physicians and Related Problems	5
New York Compared to Other States	5
Physician Supply Problems	9
Physician Maldistribution	9
The Foreign Medical Graduate	15
Foreign Born Graduates of Foreign Medical Schools	15
United States Born Foreign Medical Students	23
Medical Schools in New York State	27
New York Medical Schools Compared to United States Schools	27
Clinical Relationships - Hospitals and Medical Schools	30
Fiscal History and Prospects	32
Costs of Medical Education	33
Institute of Medicine Study - United States and New York State	33
Expansion of Undergraduate Medical Education	35
Expansion of Enrollment in Medical Schools in New York State in Relation to National Expansion	38
Geographic Source of Entering Medical Students	39
Graduate Medical Education	42

TABLE OF CONTENTS (cont.)

	Page
Projected Supply and Requirements for Physicians in New York Through the Year 2000	47
Projected Supply of Physicians from Expected Medical School Graduates and Registered Physicians	48
Most Reasonable Supply Assumptions	53
How Do Supply Projections Relate to Need	56
Primary Care Assumptions	57
Other Requirements Assumptions	60
Proportion of Federal Projections	60
High Region Rate	62
Prepaid Practice Plan Model	62
Comparisons of Physicians' Supply and Requirements	63
Impact of Physician Extenders on Physician Requirements	64
Specialty Problems	70
Limitations in Our Ability to Achieve Supply Goals	70
Most Reasonable Assumptions	72
Alternative Ways to Increase Medical School Enrollment	74
Conclusions	78
Recommendations	81
List of Tables and Charts	89

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FOREWORD

After 15 months of intensive study of the charge given to us by the Regents, and after the accumulation, analysis, and correlation of an immense amount of statistical information and other data, the Regents Task Force has identified a number of factors which influence these problems. We have developed some conclusions and have made some recommendations now, in this interim report, based on our findings to date. Because of the magnitude and complexity of our task, most documentation will be presented in the final report. And some of our most important and specific recommendations will have to wait for the final report. Because of the magnitude of the task of full data analysis and documentation of our final report, and the necessity to have a much more comprehensive discussion of the various factors and their interrelationships impinging on the production of physicians and their retention in New York State, it is impossible to produce the final printed document in time for recommendations to be included in the Regents Legislative Brochure for action by the Legislature at its next session. The issues are far too complex, their interrelations too intertwined, and the future too indistinct to provide for a full and comprehensive presentation at this time, without uniform fiscal and program data from all the medical schools; these will not be available to us until the close of this year from a study now underway.

At our request, each of the twelve medical schools in the State is now undergoing a cost analysis of medical education which will

provide the first uniform analysis of all medical schools in a single state, according to a format which only recently was developed by the Institute of Medicine, on mandate from the Congress, through contract with the Department of Health, Education and Welfare. For this reason specific financial recommendations for long range funding of medical education, and other information from that study, along with a great deal of statistical data which we have accumulated, will be included in the final report which will be available sometime during the Spring of 1975.

Because of the limitations of staff and time, only a minimum of supporting data is included herein. Extensive tabulations, on which many of the conclusions and recommendations were based, and from which our own New York State statistics were derived,are available in work tables; these will be provided in the final report.

From testimony given to the Task Force, we knew that the Federal Government was engaged in a major multiphasic study of the supply of, and demand for, physician manpower, which we were told would contain major departures from currently held opinions. Significant segments became available to us in a prepublication edition very recently, (August 1974). Materials in this very important document necessitated a complete reappraisal of many popular assumptions. This provides further explanation of our inability at this time to transmit a fully documented final report.

Our first priority has been to provide the Regents with some recommendations with which they can begin to attack these very critical problems.

Since the Task Force was appointed, it has met monthly and has spent close to 120 hours in joint sessions. Between formal sessions, committees of the Task Force and staff have spent much time in studying topics and developing materials for the Task Force. As a group we have consulted with several dozen persons, including deans of medical schools, officials of third party payers, medical economists, sociologists, medical students, Federal and State officials, representatives of hospitals and medical associations, other professional groups and proponents of new medical schools.

EXCERPTS FROM THE CHARGE TO THE REGENTS TASK FORCE ON MEDICAL SCHOOL ENROLLMENT AND PHYSICIAN MANPOWER PRESENTED BY DEPUTY COMMISSIONER T. EDWARD HOLLANDER, JULY 30, 1973

"The Regents have broad responsibility for education and licensure which affects the quality and distribution of health delivery in the State. . . .the Regents have, from time to time, been required to deal with the following specific questions.

--Should the Regents approve applications for charters for additional medical schools?

--Should the Regents encourage the further expansion of existing medical schools by recommending extended State aid programs to accomplish this objective?

--Should the Regents adopt a policy of substituting American-educated physicians for foreign-trained physicians who now receive one-third of the new licenses issued annually by the Department?

--Should the Regents contine to oppose legislation that would reserve a portion of medical school places for students who agree to practice in areas of physician shortage?

--Should the number of county and state medical fellowships that carry a commitment for practice in an area of shortage in the State be expanded? . . .

"The Regents are sensitive to the fact that the Departments of Health and Mental Hygiene have direct responsibilities for the quality of health care. They recognize also that the private medical colleges and the State University have the more difficult problems of implementing programs that may result from the broader policy statements. The Regents are also concerned that their efforts not overlap with the activities of the Health Manpower Planning Commission. Rather than seek the advice of a broader public group, they specifically requested the advice of the professionals, in and out of government, and sought out this group to help them deal with the policy questions which are within the scope of their responsibilities. . .

"In summary, my hope is that you can define medical manpower goals and suggest programs that will assure an adequate supply of competently trained medical manpower distributed in such a way that health care is accessible to all residents of the State. Your report should define as precisely as you can the number of physicians and supporting staff, (e.g., associates, assistants, nurses) needed, say by the year 2000, and their source of supply. You may want to comment on such specific questions as the need for additional medical schools, the possible expansion, if necessary, of existing ones, the state and federal roles in financing and programs for recruitment to areas of physician shortage."

ANALYSIS OF THE SUPPLY OF
PHYSICIANS AND RELATED PROBLEMS

One of our major charges was to determine the adequacy of numbers of physicians available. We have examined many criteria for measuring demand and requirements, and have found no universally acceptable criteria to measure the adequacy of supply of physicians. Nor are there any precise measures of reasonable demand for physicians' services. Nor at our current level of development is there a close correlation between physician manpower ratios and population health.

How can New York State have a physician shortage when only Israel and the U. S. S. R. (Table 1) seem to have higher ratios of practicing physicians to population than New York and when New York State has the highest physician to population ratio of any state in the Union, as well as the greatest concentration of medical schools, medical research institutions, and excellent teaching hospitals in this country and probably in the world?

New York Compared to Other States

A convenient and conventional way to measure adequacy of supply has been on a comparative basis. Overall, New York State seems to be in an exceedingly favorable position by this measure. But one of the great difficulties in assessing comparative data on this topic is the determination of which physicians have been counted. For example, the American Medical Association statistics for New York State attribute over 11% more physicians to the State than the New York State registration files include, and the American Medical

Table 1

INTERNATIONAL COMPARISON OF REPORTED
PHYSICIAN-POPULATION RATIOS
1969

(Number of Physicians per 100,000 Population)

NORTH AMERICA	
Canada	141
United States[a]	155
WESTERN EUROPE	
Austria	182*
Belgium	155
Denmark	145
Finland	95
France	130
Fed. Rep. of Germany	170*
Netherlands	122
Norway	141
Sweden	130
Switzerland	138
United Kingdom:	
England & Wales	121
Northern Ireland	131
Scotland	133
EASTERN EUROPE	
Bulgaria	183*
Czechoslovakia	145
Hungary	191*
Poland	146
Romania	129
Yugoslavia	95
OTHER	
Australia	118
Israel[b]	245*
Japan	111
New Zealand	115
U.S.S.R.	231*

SOURCE: World Health Organization (1972), Table 2.1.

[a]This ratio includes only professionally active physicians. It is not clear whether figures for the other nations have been similarly adjusted.

[b]Includes physicians who are registered in Israel but do not reside or practice there.

*Denotes nations reporting a higher physician-population ratio than was reported by the United States.

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Table 2

PHYSICIAN MANPOWER PER 100,000 POPULATION
COMPARATIVE STATE RANK
USING VARIOUS PHYSICIAN BASES
1972

RANK	Physicians (MD & DO) excluding Interns & Residents		MD Physicians Only including Interns & Residents		MD & DO Physicians including Interns & Residents		MD Physicians (only Graduates of Medical Schools in the U.S.)	
	State	Ratio						
1.	D.C.	286	D.C.	423	D.C.	424	D.C.	448
2.	New York	193	New York	239	New York	243	California	188
3.	Massachusetts	172	Massachusetts	213	Massachusetts	216	Colorado	182
4.	California	172	California	198	California	200	Maryland	181
5.	Connecticut	165	Connecticut	196	Connecticut	198	Massachusetts	178
6.	Vermont	163	Maryland	192	Vermont	194	Vermont	166
7.	Arizona	156	Vermont	185	Maryland	193	Connecticut	151
8.	Colorado	155	Colorado	178	Colorado	189	New York	151
9.	Hawaii	154	Rhode Island	167	Arizona	175	Washington	146
10.	Florida	154	Hawaii	165	Rhode Island	175	Wyoming	146
11.	Rhode Island	150	Florida	162	Florida	172	Arizona	143
12.	Maryland	144	Arizona	155	Pennsylvania	169	Oregon	138
13.	New Jersey	142	Pennsylvania	155	Hawaii	168	Utah	138
14.	Pennsylvania	139	Minnesota	151	New Jersey	161	Florida	137
15.	Oregon	137	New Jersey	150	Washington	156	Minnesota	137
16.	Washington	137	Washington	150	Missouri	155	Hawaii	136
17.	Maine	134	Oregon	147	Oregon	154	Pennsylvania	133
18.	New Hampshire	132	Illinois	142	Minnesota	153	Louisiana	123
19.	Delaware	130	Utah	142	Michigan	152	Virginia	123
20.	Missouri	129	New Hampshire	141	Delaware	146	New Mexico	122
21.	Michigan	125	Delaware	139	Illinois	145	Nebraska	119
22.	Nevada	120	Ohio	135	Ohio	145	Tennessee	118
23.	Minnesota	120	Missouri	131	New Hampshire	144	Texas	118
24.	Ohio	119	Virginia	129	Utah	144	Rhode Island	117
25.	Illinois	118	Michigan	128	Maine	139	Kansas	116
26.	Utah	118	Wisconsin	124	New Mexico	133	Nevada	113
27.	New Mexico	116	Louisiana	123	Virginia	130	North Carolina	113
28.	Wisconsin	111	Tennessee	122	Kansas	128	New Hampshire	113
29.	Montana	111	New Mexico	120	Wisconsin	128	Missouri	112
30.	Kansas	109	Kansas	119	Texas	126	Georgia	111
31.	Oklahoma	108	Maine	119	Louisiana	123	Wisconsin	109
32.	Virginia	108	Texas	119	Tennessee	123	Oklahoma	108
33.	Texas	107	Nebraska	118	Nebraska	121	Alaska	105
34.	Nebraska	106	Nevada	116	Nevada	120	Montana	105
35.	Iowa	103	North Carolina	113	Oklahoma	119	Illinois	104
36.	Louisiana	103	Georgia	112	Iowa	118	New Jersey	104
37.	Tennessee	103	West Virginia	109	Georgia	114	Ohio	102
38.	West Virginia	103	Montana	107	West Virginia	114	South Carolina	100
39.	Wyoming	103	Iowa	104	North Carolina	113	Arkansas	99
40.	Idaho	100	Kentucky	104	Montana	111	Delaware	98
41.	Georgia	98	Indiana	103	Indiana	106	Kentucky	98
42.	North Carolina	97	Oklahoma	103	Kentucky	105	Idaho	96
43.	North Dakota	97	Wyoming	101	Wyoming	104	Iowa	95
44.	Indiana	96	Idaho	97	Idaho	100	Michigan	95
45.	Kentucky	92	North Dakota	97	North Dakota	98	Indiana	94
46.	Arkansas	86	South Carolina	97	South Carolina	97	Alabama	93
47.	South Carolina	86	Arkansas	95	Arkansas	96	Maine	91
48.	Alaska	82	Alabama	91	Alabama	91	Mississippi	91
49.	South Dakota	82	Mississippi	83	South Dakota	85	North Dakota	87
50.	Alabama	80	Alaska	81	Mississippi	83	South Dakota	84
51.	Mississippi	75	South Dakota	81	Alaska	82	West Virginia	84

Sources:

1/ All M.D., Intern & Resident, and Population Data compiled from American Medical Association, Distribution of Physicians, 1972, Vol. 1.

2/ Osteopathic Physicians - American Osteopathic Association, Directory of Osteopathic Physicians, 1972.

3/ U.S., Health, Education and Welfare, The Supply of Health Manpower, February, 1974.

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Association statistics form the basis for almost all Federal and other studies of this subject. In part, this discrepancy is due to the fact that American Medical Association tabulates all medical degree holders whether or not they are licensed to practice medicine. Thus, AMA includes many inactive physicians as well as interns and residents in their statistics. Many of these, while present in the State, are not licensed or do not treat patients in New York State.

Generally, when New York State is ranked comparatively, it comes out ahead of all other states. As can be seen from Table 2, depending upon which kinds of physicians are counted, New York State had between 193 and 243 physicians per 100,000 population. However, when New York is ranked against the other states, according to the numbers of graduates of United States medical schools registered in the State, it falls to seventh place with only 151 United States medical graduates per 100,000 population as compared to California with 188 such physicians. In addition, while New York State has granted 13% of the MD's awarded in the United States, it does not receive its "fair share" of these graduates, since only 9% of all United States medical school graduates in recent history have ultimately settled in New York State (Table 11). Part of this is no doubt due to a general population drift to more rapidly growing states. (Further analysis of this issue will be provided in the final report.) The difference is compensated for by graduates of foreign medical schools, on which New York State has been relying heavily. New York has received more than 25 percent of the recent annual foreign medical graduates (FMG) migrations into the United States, and thus our state is becoming

increasingly dependent upon foreign medical graduates to maintain its physician to population ratio. (See Tables 4 to 6 for comparative statistics showing increased dependence of States on foreign medical graduates, 1959 and 1970.)

Physician Supply Problems

On the basis of various models of health care delivery, and using other criteria, (which will be discussed in much greater detail further along in this interim report and in the final report) even with New York's high physician to population ratio, there are not enough total physicians to meet the requirements for physicians' services in New York State. Gross State ratios mask needs of areas in the State well below average State ratios.

Physician Maldistribution

In addition to the total shortage of physicians to population, two other kinds of shortages are even more obvious; these both result from maldistribution. The experience in New York State is not different from that of the other states and other countries except, perhaps, in magnitude. Geographic maldistribution is manifested by a more than tenfold difference between counties in New York State in ratio of physicians to population as can be seen from Table 3 and the map; and within most of the counties there is probably an equivalent range of difference.

Factors which influence the choice of practice location of physicians are not very different from those which influence the location of other professionals. As one naturally would expect, physicians tend to congregate around urban and metropolitan centers where there are ample facilities for patient care and referral for all purposes.

Table 3
DISTRIBUTION OF PHYSICIANS N.Y.S.
BY OPS REGIONS

Regions[1]	Population[2] (000) 1972	Registered[3] Physicians 1972	Physician[3] per 100,000 Population	
			Region Rate	County Range
Upstate				
Western	1,372	2,195	160	78 - 177
Genesee-Finger Lakes	1,090	1,869	171	48 - 204
Southern Tier West	272	289	106	65 - 122
Southern Tier Central	213	305	143	131 - 153
Black River/St. Lawrence	261	292	112	64 - 132
Central	762	1,221	160	63 - 204
Southern Tier East	488	731	150	51 - 181
Upper Mohawk	329	467	142	73 - 160
Lake Champlain/Lake George	208	310	149	89 - 225
Upper Hudson	942	1,608	171	61 - 294
Mid-Hudson	1,830	4,367	239	86 - 316
Nassau/Suffolk	2,609	4,769	183	135 - 223
Upstate Subtotal	10,464[4]	18,423	176	48 - 316
New York City				
Bronx	1,462	2,041	140	NA
Kings	2,585	3,959	153	NA
New York	1,529	10,401	680	NA
Queens	1,974	3,497	177	NA
Richmond	293	543	185	NA
New York City Subtotal	7,843	20,441	261	140 - 680
Total State	18,307	38,864	212	48 - 680

[1] See map facing page
[2] Source: N.Y.S. OPS population modified by N.Y.S. Health Dept. 1972 count
[3] Source: New York State Education Department Registration files
[4] Includes institutional population not included in Regional totals.

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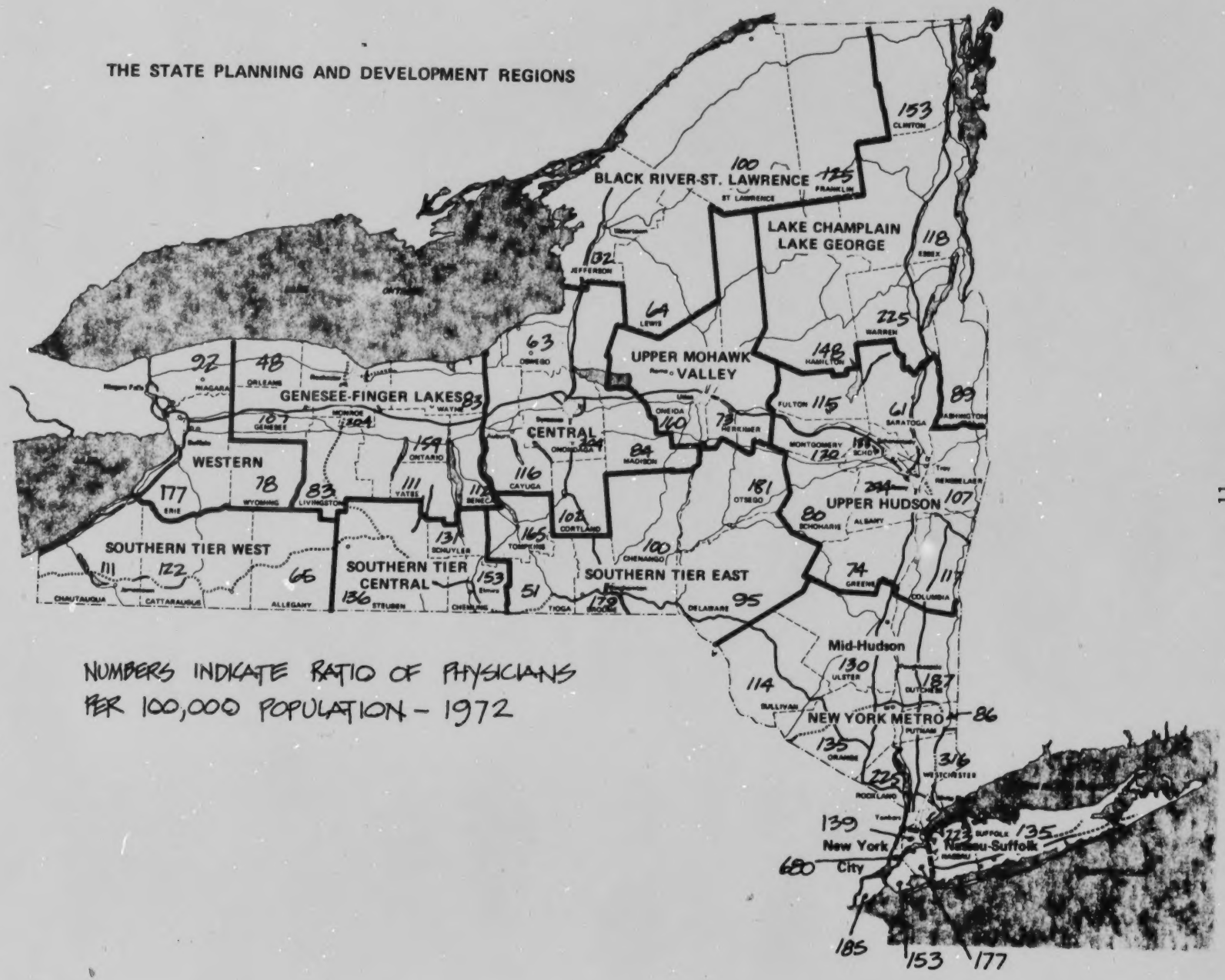
THE STATE PLANNING AND DEVELOPMENT REGIONS
BLACK RIVER-ST. LAWRENCE
LAKE CHAMPLAIN
LAKE GEORGE
UPPER MOHAWK
VALLEY
GENESEE-FINGER LAKES
CENTRAL
WESTERN
SOUTHERN TIER WEST
SOUTHERN TIER
CENTRAL
SOUTHERN TIER EAST
UPPER HUDSON
Mid-Hudson
NEW YORK METRO
New York
City
Nassau-Suffolk
NUMBERS INDICATE RATIO OF PHYSICIANS
PER 100,000 POPULATION - 1972

The most significant underserved areas of the State lie in the sparsely populated or declining rural areas and multiproblem urban areas.

There are studies which show that the prime influence on where a physician elects to settle and practice is the location of his internship and residency training, and not where he went to medical school or even the community in which he matured. The next strongest factors in influencing physician distribution are the climate of the area and the educational, recreation, social and cultural resources available there for the family. These are influences over which there can be very little control.

Another strong element in the settlement decision is the professional climate. Are there other physicians available with whom physicians can interact, who can "backstop" them and are there satisfactory hospitals available in which their patients can receive quality care? Other considerations include the State's tax structure, and malpractice insurance premiums (which in this State have just increased 93 percent).

The crime and decay in urban problem areas render these locations not only unattractive to physicians as locations for practice, but they are extremely hazardous. Many physicians' offices in these areas are kept locked; would-be entrants are screened, and all sorts of inconvenient and stifling precautions are taken in order to prevent the recurrence of robberies, drug theft, and assault, of both patients and physicians. Until these complex problems are reduced, or at least significantly ameliorated, the urban central cores will

remain areas in which proper medical care is either not available to the extent that it should be, or is provided under the most stringent, dangerous, and unpleasant circumstances.

Some of the other factors which contribute to the perceived shortage of physicians cannot be reflected at this time in traditional statistics. More physicians are joining group practices and working 40 hour weeks instead of the 60 or even 80 hour weeks which have been traditional for many physicians. Also, more physicians are seeking early retirement.

We know that there are too many surgeons and not enough primary care specialists. We need more family practitioners, pediatricians, and internists. The United States has almost the exact reversal of ratios of primary care physicians to specialists as does Great Britain. Nearly all graduates of medical schools in the United States will have spent three years in graduate medical education after they have received their medical degrees, serving residencies in specialities in which they ultimately will practice all or part time.

The Task Force has inquired of all the American Medical and Osteopathic Specialty Boards about what they are doing, or plan to do, to control the numbers of specialists in their fields in order to meet the needs of the general population for primary and all other specialized care. Some of the specialty boards have conducted studies in this area, and hopefully will be developing criteria for the education and training of numbers of specialists. However, more than half of the Boards have indicated that the control over numbers in their specialty is outside of their function.

Recently we have begun to detect a greater interest in primary care on the part of medical students and graduates. In part, this can be attributed to the founding of the American Board of Family Practice and the American Academy of Family Practice, thus providing a basis for comparable recognition and training for general and family physicians. The shrinking supply of Federal and other research monies has also had an influence in deflecting many physicians from oversupplied specialties into primary practice. Last year $2 million was appropriated to continue and expand family medicine residency training programs in New York State. Our findings will show that residencies in the primary care areas should be expanded by close to 10% which is probably beyond the capacity of this appropriation.

THE FOREIGN MEDICAL GRADUATE

We cannot address the subject of adequacy of medical services provided to this State without touching upon the subject of the foreign medical graduate (FMG).

The Task Force is cognizant of substantial and excellent contributions to the health of the people of this State and this country, provided through the expertise of graduates of foreign medical schools who are engaged in medical practice, in teaching of medical students, interns and residents, or who are involved in medical research. Many such physicians have made outstanding contributions to the United States, the world and to their own countries after returning to their homelands. We readily pay tribute to physicians of that quality, and their achievements. However, these are not the foreign medical graduates who are the subjects of increasing concern to the general public and problems to the hospitals. It is to those whom we must now refer.

Foreign Born Graduates of Foreign Medical Schools

There has been a sudden and drastic change in the attitude of the public toward the role of the foreign medical graduate in the delivery of health care in this country, and particularly in this State. Public leaders and professionals in this State, the country and the world in recent months have begun to express concern over the impact and long range implications of FMG migration, their cumulative presence in this country, and our increasing dependence on them.

Table 4

NUMBER OF PHYSICIANS LOCATED IN THE UNITED STATES, ITS TERRITORIES, OR ON TEMPORARY FOREIGN ASSIGNMENT, CLASSIFIED ACCORDING TO WHETHER THEY ARE GRADUATES OF U.S. MEDICAL SCHOOLS

Mid – 1959

Location of Physicians	Total Number of Physicians	Graduates of U.S. Schools	Graduates of other than U.S. Schools				Percent of Total Graduated from Foreign Schools
			Total	Canadian Schools	Foreign Schools	School Unknown	
Non-Federal physicians:							
Alabama	2,441	2,409	32	14	16	2	0.7
Arizona	1,182	1,112	70	32	36	2	3.0
Arkansas	1,623	1,568	55	7	4	44	0.2
California	23,605	21,727	1,878	662	1,214	2	5.1
Colorado	2,569	2,479	90	21	63	6	2.5
Connecticut	4,075	3,582	493	171	321	1	7.9
Delaware	521	476	45	16	29	0	5.6
D. C.	2,527	2,374	153	33	120	0	4.7
Florida	5,595	5,330	265	84	176	5	3.1
Georgia	3,500	3,442	58	15	43	0	1.2
Idaho	572	563	9	7	2	0	0.3
Illinois	12,477	10,980	1,497	166	1,330	1	10.7
Indiana	4,486	4,368	118	35	83	0	1.9
Iowa	2,728	2,625	103	28	74	1	2.7
Kansas	2,224	2,160	64	24	40	0	1.8
Kentucky	2,638	2,580	58	13	42	3	1.6
Louisiana	3,493	3,459	34	27	7	0	0.2
Maine	976	802	174	100	74	0	7.6
Maryland	4,018	3,618	400	86	314	0	7.8
Massachusetts	8,910	8,206	704	322	369	24	4.1
Michigan	8,482	7,722	760	530	230	0	2.7
Minnesota	4,463	4,192	271	144	125	2	2.8
Mississippi	1,649	1,607	42	11	12	19	0.7
Missouri	4,835	4,669	166	41	123	2	2.5
Montana	629	615	14	10	4	0	0.6
Nebraska	1,520	1,503	17	5	12	0	0.8
Nevada	282	259	23	16	6	1	2.1
New Hampshire	783	658	125	91	34	0	4.3
New Jersey	7,133	6,169	964	155	807	2	11.3
New Mexico	693	656	37	11	24	2	3.5
New York	31,652	24,665	6,987	1,062	5,925	0	18.7
North Carolina	4,142	4,045	97	45	49	3	1.2
North Dakota	499	410	89	61	28	0	5.6
Ohio	11,242	10,187	1,055	252	803	0	7.1
Oklahoma	2,191	2,153	38	13	13	12	0.6
Oregon	2,236	2,189	47	33	12	2	0.5
Pennsylvania	14,818	14,254	564	241	322	1	2.2
Rhode Island	1,044	858	186	53	133	0	12.7
South Carolina	1,810	1,801	9	2	7	0	0.4
South Dakota	481	432	49	7	42	0	8.7
Tennessee	3,581	3,504	77	20	35	22	1.0
Texas	9,282	8,938	344	61	233	50	2.5
Utah	1,081	1,062	19	13	6	0	0.6
Vermont	575	530	45	34	10	1	1.7
Virginia	3,910	3,675	235	44	191	0	4.9
Washington	3,430	3,195	235	140	94	1	2.7
West Virginia	1,638	1,577	61	21	38	2	2.3
Wisconsin	4,059	3,941	118	36	80	2	2.0
Wyoming	270	266	4	2	2	0	0.7
Alaska	109	7	1	5	1	4.6	
Hawaii	620	558	62	19	42	1	6.8
Puerto Rico	1,059	801	258	10	247	1	23.3
U.S. Territories	134	110	24	2	22	0	16.4
Foreign countries	1,719	1,415	304	137	165	2	9.6
Unknown location	1,306	1,104	202	37	135	30	10.3
Federal physicians	17,519	16,540	979	198	781	0	4.5
All physicians	241,0[illegible]6	220,222	20,814	5,421	15,154	239	6.3

Source: William H. Stewart and Maryland Pennel, *Health Manpower Source Book, Medical School Alumni*, Public Health Service Publication No. 263, Section 11, Washington, D.C., 1961, Table 1.

Table 5

PHYSICIANS IN THE U.S. BY STATE OF PRACTICE AND COUNTRY OF GRADUATION

December 31, 1970

State	Total (100.0%)	Country of Graduation: United States Number	United States Per Cent	Foreign Number	Foreign Per Cent	Canada Number	Canada Per Cent
Total	334,028	270,637	81.0	57,217	17.1	6,174	1.8
Alabama	3,377	3,219	95.3	147	4.4	11	0.3
Alaska	324	303	93.5	17	5.2	4	1.2
Arizona	2,938	2,608	88.8	282	9.6	48	1.6
Arkansas	1,955	1,924	98.4	25	1.3	6	0.3
California	41,640	37,476	90.0	2,980	7.2	1,184	2.8
Colorado	4,386	4,076	92.9	259	5.9	51	1.2
Connecticut	6,072	4,617	76.0	1,267	20.9	188	3.1
Delaware	783	543	69.3	217	27.7	23	2.9
District of Columbia	4,073	3,253	79.9	778	19.1	42	1.0
Florida	11,451	9,513	83.1	1,769	15.4	169	1.5
Georgia	5,546	5,088	91.7	434	7.8	24	0.4
Hawaii	1,235	999	80.9	203	16.4	33	2.7
Idaho	718	697	97.1	11	1.5	10	1.4
Illinois	16,323	11,608	71.1	4,542	27.8	173	1.1
Indiana	5,470	4,954	90.6	473	8.6	43	0.8
Iowa	3,061	2,708	88.5	323	10.6	30	1.0
Kansas	2,910	2,582	88.7	299	10.3	29	1.0
Kentucky	3,560	3,192	89.7	346	9.7	22	0.6
Louisiana	4,768	4,476	93.9	261	5.5	31	0.7
Maine	1,186	903	76.1	174	14.7	109	9.2
Maryland	9,518	7,140	75.0	2,249	23.6	129	1.4
Massachusetts	12,576	10,227	81.3	1,993	15.9	351	2.8
Michigan	11,364	8,559	75.3	2,376	20.9	429	3.8
Minnesota	6,145	5,303	86.3	645	10.5	197	3.2
Mississippi	2,077	2,001	96.3	67	3.2	9	0.4
Missouri	6,314	5,283	83.7	982	15.6	49	0.8
Montana	787	743	94.4	30	3.8	14	1.8
Nebraska	1,855	1,777	95.8	70	3.8	8	0.4
Nevada	595	557	93.6	14	2.4	24	4.0
New Hampshire	1,098	857	78.1	145	13.2	96	8.7
New Jersey	10,923	7,565	69.3	3,224	29.5	134	1.2
New Mexico	1,390	1,242	89.4	127	9.1	21	1.5
New York	44,800	27,795	62.0	15,946	35.6	1,059	2.4
North Carolina	6,069	5,696	93.9	311	5.1	62	1.0
North Dakota	660	528	80.0	91	13.8	41	6.2
Ohio	14,740	10,996	74.6	3,516	23.9	228	1.5
Oklahoma	2,899	2,775	95.7	105	3.6	19	0.7
Oregon	3,181	2,981	93.7	141	4.4	59	1.9
Pennsylvania	18,712	15,779	84.3	2,710	14.5	223	1.2
Rhode Island	1,638	1,084	66.2	495	30.2	59	3.6
South Carolina	2,670	2,560	95.9	99	3.7	11	0.4
South Dakota	629	556	88.4	70	11.1	3	0.5
Tennessee	5,022	4,698	93.5	306	6.1	18	0.4
Texas	14,952	13,307	89.0	1,540	10.3	105	0.7
Utah	1,569	1,508	96.1	43	2.7	18	1.1
Vermont	868	756	87.1	71	8.2	41	4.7
Virginia	6,552	5,588	85.4	896	13.7	68	1.0
Washington	5,562	4,939	88.8	429	7.7	194	3.5
West Virginia	1,946	1,465	75.3	463	23.8	18	0.9
Wisconsin	5,588	4,893	87.6	642	11.5	53	0.9
Wyoming	364	346	95.1	13	3.6	5	1.4
Possessions	2,836	1,412	49.8	1,414	49.9	10	0.4
APO-FPO	3,149	2,912	92.5	204	6.5	33	1.0
Address Unknown	3,204	2,070	64.6	978	30.5	156	4.9

Note: Percentages may not add due to rounding.

Source: Haug, J.N.; Roback, G.A.; and Martin, B.C. Distribution of Physicians in the United States, 1970. Chicago, American Medical Association, 1971.

This issue has been highlighted in the popular press on several occasions in the last six months. The chief concerns are over the cumulative problems that have resulted from the increasing presence of foreign medical graduates, especially those foreign born and reared, who have come to this country for graduate training and education.

Graduates of foreign medical schools have played an increasingly major role in the delivery of health care in recent years. The number of foreign medical graduates in the United States nearly quadrupled between 1959 and 1972, increasing from 15,000 to 57,000 (comparing Tables 4 and 5).[1] In 1972, FMG's constituted 17% of the total United States physician population and 23% of the registered physicians in New York State, with an estimated range of FMG's from 7% to 47% of total registered physicians among counties in New York. In 1972, FMG's constituted almost half of the new licentiates in the United States (Table 6) and in 1972, for the first time, the number of FMG's entering the United States either as immigrants or as exchange visitors exceeded the number of United States medical school graduates. While in 1972 United States medical schools graduated 9,600 students, 11,400 FMG's entered the United States.[2]

FMG's began coming into the United States in significant numbers after World War II. In an effort to fill their internship and residency positions, and at the same time to meet their staffing needs, FMG's were actively recruited by the hospitals. The influx of FMG's accelerated after 1965. At that time, Congress abolished the origin quotas for immigration and instituted a system of preference with

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[1] As previously noted, AMA counts all M.D.'s. Only registered physicians are in Task Force counts. Thus our 23%, calculated from survey data, is below the estimate of FMG's in New York on Table 5.

[2] The Supply of Health Manpower, op. cit., p.83.

Table 6 NEW LICENTIATES
REPRESENTING ADDITIONS TO THE MEDICAL PROFESSION, 1950-1972

Year	New U.S. & Canadian Licentiates	New Foreign-Trained Medical Licentiates		Total New Medical Licentiates	Percentage of New Med. Licentiates Attributable to Foreign-Trained Physicians
		U.S. Born	Total		
1950	5,694	n/a	308	6,002	5.1
1951	5,823	n/a	450	6,273	7.2
1952	6,316	n/a	569	6,885	8.3
1953	6,591	n/a	685	7,276	9.4
1954	7,145	n/a	772	7,917	9.8
1955	6,830	n/a	907	7,737	11.7
1956	6,611	n/a	852	7,463	11.4
1957	6,441	212	1,014	7,455	13.6
1958	6,643	284	1,166	7,809	14.9
1959	6,643	366	1,626	8,269	19.7
1960	6,611	386	1,419	8,030	17.7
1961	6,443	468	1,580	8,023	19.7
1962	6,648	201	1,357	8,005	17.0
1963	6,832	395	1,451	8,283	17.5
1964	6,605	200	1,306	7,911	16.5
1965	7,619	411	1,528	9,147	16.7
1966	7,217	252	1,634	8,851	18.5
1967	7,267	279	2,157	9,424	22.9
1968	7,581	235	2,185	9,766	22.4
1969	7,671	179	2,307	9,978	23.1
1970	8,016	198	3,016	11,032	27.3
1971	7,943	n/a	4,314	12,257	35.2
1972	7,815	n/a	6,661	14,476	46.0

Source: "Medical Licensure Statistics," Journal of the American Medical Association, 216 (1971), 220 (1972), 225 (1973)

priority assigned to professions in short supply, and physicians were assigned a high priority.

We have compared the incidence of foreign medical school graduates evaluated for licensure in New York State in 1966 with those evaluated in 1971, by area of origin. In 1966, 58 percent came from European and English speaking countries where the quality of medical education more nearly approximates that offered in the United States. Since that time there has been a major shift. In 1971, we had 85 percent migrating from countries where cultural and sociological standards are vastly different from those in the United States, and less than 15 percent from European and English speaking countries.

New York Law, in accord with the policy of professional organizations responsible for maintaining the quality of graduate medical education, requires such physicians to obtain a standard certificate of the Educational Council for Foreign Medical Graduates (ECFMG) prior to entering approved training programs. Many foreign medical graduates are unable to pass the ECFMG examination (necessary for ECFMG certification), or do so only after several attempts, although in scope of medical knowledge required, it equates at about the level that a beginning senior medical student in the United States would be expected to possess.

Part of the FMG's difficulty lies in inadequacies in their written and spoken English communication abilities. Other problems are related directly to quality of their medical education. Most frequently theirs is not comparable to that offered in the United

States, because of severe deficiencies in clinical training and experience. Their communication problems, comparative inadequacy of their medical education, cultural differences (which become apparent in their attitudes towards patients), and frequently their stringent financial circumstances, all cause enormous frustrations and serious difficulties for the institutions which employ them.

The increasing numbers of FMG's arriving annually in this country have been partly our own fault. United States medical schools have not supplied enough graduates to fill the needs of hospitals, and consequently the hospitals have had to develop training programs and accept or recruit foreign medical graduates in order to offer the necessary staff services to their patients. While this move was spearheaded by mental hygiene, correctional and other municipal institutions with limited resources, it has spread to a point where the presence of FMG's has become publicly visible and unacceptable.

Although the graduate training programs (internships and residencies) under the direction of the medical schools are excellent and even superior in some instances, there are training programs in non-affiliated institutions which, as educational experiences, leave a great deal to be desired. In the latter, FMG's are employed primarily as house physicians to render care to patients, and are not provided with appropriate education that is relevant to the needs and capacity of their native countries; nor frequently is it of an acceptable quality. These less desirable programs are being phased out because of both professional and economic pressures.

(Residencies no longer provide the labor bargains for the hospitals which they did when house staff salaries were 5% or less of their current levels.)

Because this has become such an important national issue, and because some foreign nations are beginning to voice resentment over the brain-drain by developed countries (mainly the United States), they have begun to inhibit or prevent the migration of physicians to this country. The Task Force thus expects that the supply of foreign medical graduates will be diminished substantially over the next decade.

A sudden prohibition against the immigration of foreign physicians would be a major catastrophe to this country.

As the numbers of United States medical graduates increase, due to past, present, and projected expansion in enrollment of United States' medical schools, the non-exceptional foreign medical graduate will gradually be replaced; the quality of medical care delivered will be improved, and the concerns of the public over this issue will have been eased. Between countries it is mutually advantageous to have some exchange of physicians, and our recommendations are not designed to preclude such activity. However, to continue to recruit and accept physicians from countries where health standards are far lower than in the United States, is unconscionable, unethical, and should not be continued, even if it had no impact on the quality of care available in the U.S.

United States Born Foreign Medical Students

Reliable figures on the numbers of United States students who are studying medicine outside this country and Canada are extremely difficult to obtain. The best available estimates of the total numbers of such students fall between 3,800 and 6,000 for the year 1971-72. It has been estimated that of the 3,000 to 6,000 United States students who are studying abroad, between 25 and 50 percent are from New York State.

In 1972, the Association of American Medical Colleges estimated that 22,000 qualified applicants to American medical schools were not admitted to schools in this country. Many of these then sought their medical education abroad.

The bulk of American medical students studying in other countries do so in Mexico (mostly at the Autonoma Universidad de Guadalajara) and at medical schools in France and Italy. Small numbers of Americans are enrolled in medical institutions throughout other countries of Western Europe. Although some receive excellent medical instruction, it is apparent from scores on examinations that the education many obtain is deficient when compared with that available in the United States or Canadian medical schools. At the present time such individuals enter the main stream of American medicine by one of three routes:

(1) Traditional: By earning a Doctor of Medicine degree (or its equivalent) from a foreign school and full licensure in the country of medical education, then obtaining the standard certificate of the Educational Council for Foreign Medical Graduates, and then serving in an AMA approved internship and/or residency, and finally by passing the licensing examination.

(2) COTRANS: By passing Part I of the examination of the National Board after two years of pre-clinical medical school instruction abroad, by applying through the COTRANS (Co-ordinated Transfer) Program of the Association of American Medical Colleges, and then being accepted by one of the United Stated medical schools into their clinical program (typically the third year of medical school) thus earning an American medical degree, and then passing the licensing examination.

(3) Fifth Pathway: By completing all requirements of the foreign medical school for the Doctor of Medicine degree or its equivalent (with the exception of any internship and/or social service requirements), by earning an acceptable score on either the ECFMG examination or Part I of the National Board examinations, and by being accepted into, and satisfactorily completing, an academic year of supervised clinical training under the direction of a United States medical school "Fifth Pathway" program, and then by passing the licensing examination.

Expansion and improvement of the opportunities for United States students enrolled in foreign medical schools to return to this country (e.g., under COTRANS and Fifth Pathway Programs), and to complete their medical education here, will improve the quality of their education to more nearly equate with an American medical

education. However, it must be clearly recognized that such efforts only encourage larger numbers of United States citizens to seek medical education abroad. Because of the increasing United States student pressures on foreign medical schools and for other reasons, the number of places available to United States students has been reduced substantially in some countries and completely eliminated in others. This is necessary to reserve sufficient places for the foreign countries' students needs and to conserve their supply of domestic physicians.

MEDICAL SCHOOLS IN NEW YORK STATE

There are currently twelve medical schools in New York State. Of these, four are part of the State University of New York and eight are private. (They are identified on Table 7 with enrollment and graduate statistics.) With the exception of SUNY at Stony Brook, which began as a "public" school (with its first class entering in 1971), all of the medical schools in New York State had their beginnings as private medical schools. A comparison between graduates of New York State schools and United States schools is arrayed on Table 8.

New York Medical Schools Compared to United States Schools

Nationally, the mixture of public and private schools is quite different. Of the 112 medical schools operational in 1972-73, 48 were private and 64 public. However, nationwide 44% of the entering class in 1972 were enrolled in private schools. By contrast, in New York State the eight private schools enrolled 66% of the 1972 entering class. This is the result of the long history of private medical education in the State and the more recent development of the SUNY system. The resultant constellation of State and private schools represents a major resource in terms of education, (12% of all first year places in the country), service and research. All medical schools have a vital impact nationally, as well as in the State and in the local areas where they are located. The development of high quality medical schools nationally and in New York State has been linked closely to major population centers, since the teaching of clinical medicine requires access to a wide range of facilities for the treatment of

Table 7

NEW YORK MEDICAL SCHOOLS
ENROLLMENT AND GRADUATES
SELECTED ACADEMIC YEARS [1]

	Actual						Estimated			
	1965-66		1970-71		1973-74		1975-76		1980-81	
Medical School	Total Enrollment	Graduates	Total Enrollment	Graduates	Total Enrollment	Graduates	Total Enrollment	Graduates	Total Enrollment	Graduates
Public (SUNY) Schools										
Buffalo	381	91	464	110	505	120	503	139	540	135
Stony Brook	0	0	0	0	48	21	85	36	216	72
Downstate	716	152	817	203	829	205	804	205	864	216
Upstate	367	76	414	99	464	119	471	119	500	140
Total Public	1,464	319	1,695	412	1,846	465	1,863	499	2,120	563
Independent Schools										
Albany	249	61	315	75	382	96	382	110	440	110
Columbia	461	109	524	126	563	136	537	137	588	147
Cornell	333	81	360	90	379	924	376	101	404	101
Mt. Sinai [2]	0	0	164	35	192	54	222	60	357	100
N.Y. Medical College	502	124	521	119	599	165	778	165	660	165
New York University	490	122	563	128	574	138	577	159	680	170
Rochester	284	62	306	74	366	80	353	96	388	97
Yeshiva (Einstein)	370	87	449	120	531	230	695	176	704	176
Total Independent	2,689	646	3,202	767	3,586	991	3,920	1,004	4,221	1,066
TOTAL all N.Y.S. Schools	4,153	965	4,897	1,179	5,432	1,456	5,783	1,503	6,341	1,629

Footnotes on Facing Page.

TABLE 8

Numbers of Graduates from Schools in New York State Compared To Numbers of Graduates from Medical Schools in the United States

Selected Years--Actual and Projected

Academic Year	Number of Medical School Graduates		New York State as a Percentage of U.S.
	U.S.[1]	N.Y.[2]	
Actual			
1960-61	6,994	928	13.3%
1965-66	7,574	965	12.7
1970-71	8,974	1,179	13.1
1971-72	9,551	1,229	12.9
1972-73	10,391	1,232	11.8
Estimated			
1973-74	10,744	1,456	13.6%
1974-75	11,719	1,592	13.6
1975-76	12,680	1,503	11.8
1980-81	14,130	1,629	11.5

Sources:

[1]United States Actual Graduates (1960-73) from JAMA, November, 1973. Vol. 226, No. 8. "Medical Education", reprint.
U.S. Estimates-Basic Projection, Page 71 (1973-4 to 1980-81) from U.S. Department of Health, Education, and Welfare, Division of Manpower Intelligence, The Supply of Health Manpower, February, 1974. (Prepublication edition).

[2]Actual - Sum of Individual School Estimates from Part II of Liaison Committee on Medical Education Annual Medical School Questionnaire, 1972-73.

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Table 7 Footnotes

[1]Source: Reports of Individual Schools to SED, and Part II Liaison Committee. . . Questionnaires.

[2]Affiliated with CUNY but financially autonomous and self-supporting under its own Board of Trustees.

hospitalized and ambulatory patients. Thus, it is not surprising that the largest aggregation of medical schools in this State is in the New York City metropolitan area, and that those located outside that area are situated in other larger urban concentrations having both the necessary population density and clinical facilities to meet educational requirements. The medical schools outside New York City are fortuitously dispersed in a way that provides easy access from most areas, leaving only two urban regions (centered in Binghamton and Utica), the sparsely populated northern and southern tier regions, plus the central Hudson valley without medical schools.

Clinical Relationships - Hospitals and Medical Schools

Although the numbers of hospitals and hospital beds (Table 9) give some indication of the potential of a vital component of the medical education environment, they do not tell the whole story. The development of teaching hospitals, suitable for the whole spectrum of medical education, depends on many factors which require strong commitments of personnel and funds, both by the schools and the hospitals, and a determination by both to create the kind of educational environment necessary for the education of physicians and other health professionals.

Close alliances between medical schools and their major teaching hospitals have made modern health sciences centers. These, together with affiliations with other hospitals and facilities, sometimes at some distance from the centers, though often less closely knit, play an important role in some part of the undergraduate and

TABLE 9
NEW YORK STATE MEDICAL SCHOOLS
COMPARED WITH
CLINICAL RESOURCES BY OPS REGION, 1972

OPS Region	Population[1] (000)	Medical Schools		Hospitals			
		Number	Enrollment Academic Yr. Beginning '72	Number[2]	Total Beds	# with Approved Graduate Programs[3]	# of 1st yr. Residencies[3]
Upstate							
Western	1,372	1	506	24	6,636	13	202
Genesee-Finger Lakes	1,090	1	366	22	3,562	6	205
Southern Tier West	272	0	0	11	1,192	0	0
Southern Tier Central	213	0	0	7	1,059	0	0
Black River/St.Lawrence	261	0	0	14	1,419	0	0
Central	762	1	464	13	2,572	2	120
Southern Tier East	488	0	0	15	2,227	3	33
Upper Mohawk	329	0	0	9	1,316	1	9
Lake Champlain/Lake George	208	0	0	9	1,023	0	0
Upper Hudson	942	1	382	21	4,025	6	102
Mid-Hudson	1,830	0	0	46	8,061	15	71
Nassau/Suffolk	2,609	1	48	30	7,113	7	273
Subtotal Upstate	10,464[4]	5	1,766	221	40,205	53	1,015
New York City							
Bronx	1,462	1	532	19	5,853	11	NA
Kings	2,585	1	829	37	11,035	19	NA
New York	1,529	5	2,323	45	18,661	28	NA
Queens	1,974	0	0	21	6,866	8	NA
Richmond	293	0	0	4	911	3	NA
Subtotal New York City	7,843	7	3,684	126	43,326	69	2,491
Total New York State	18,307	12	5,450	347	83,531	122	3,506

[1] OPS data modified by Health Department census

[2] Hospital data and number of beds compiled from N.Y.S. Department of Health, Health Facilities Directory, 1973. Vol. 1.

[3] Includes psychiatric residencies and programs in state mental hospitals whose beds are not included in the column in which numbers of beds are tabulated.

[4] Includes institutional population not included in regional totals.

10/21/74

graduate education process and the development of high quality professional and patient care resources. Not infrequently "minor" affiliations develop, over the years, into major alliances. Thus, a hospital affiliated with a medical school, largely in relation to graduate (intern and resident) training, develops such a strong educational program that the next step is the formation of a major alliance.

Detailed information on and analysis of the needs for medical school-hospital affiliation and graduate medical education will be available in the final report.

Fiscal History and Prospects

In recent years, especially in the 1960's, funds have flown freely for innovation but rarely for long term implementation. This has led the schools into a most uneasy situation exacerbated by the current national economic situation with rising costs, shrinking endowments and the resultant retrenchments now in progress in both the public and private sectors. When the effects of inflation and the erosion of endowments (both by depreciation and the necessity for invasion of endowment funds experienced by some schools) are added to the previous inconsistencies of funding, unease in the medical schools has moved to acute anxiety. Preliminary analyses suggest that without major changes in funding there is a potential for total economic collapse in most, if not all, of the eight New York State private medical schools by 1985. Comparable fiscal and program statistics for all of the medical schools even in this State are not available now. Although the Task Force believes this is an extremely critical issue, since we cannot afford to reduce or lose any of these twelve institutions, further elaboration must be included in the final report along with substantiation, detailed

analyses and proposals based on comparable and nationally acceptable methodology.

Costs of Medical Education

Although there have been a number of studies and estimates, no one really knows how much it costs to educate a medical student,[1] because no two medical schools budget in the same manner and no two schools have the same program mix or administrative climate. The education of medical students generally represents less than one half the net costs of the medical schools; therefore, this has been an area which has defied uniform analysis. (Medical schools are responsible also for the education of the allied health professionals, graduate students, undergraduate students and, sometimes, dental students and nursing students, in addition to their research, community efforts, patient care, and other responsibilities.)

Institute of Medicine Study - United States and New York State

The Institute of Medicine (IOM) of the National Academy of Sciences recently concluded a two year study as a result of a Congressional mandate, which included a comprehensive analysis of the cost of educating major health professionals including physicians. Fourteen medical schools across the country including one from New York composed their sample. While the IOM found the annual educational cost range to be between $7,000 and $19,000, an Association of American Medical Colleges study released earlier indicated costs of up to $25,000 per student per year.

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[1] While program cost statistics are available, there is not uniform agreement concerning which elements should be allocated to the cost of instructing an individual student.

The four SUNY medical schools, under contract with the same firm which collected data for the IOM study began conducting a similar study using the IOM methodology in the late spring of 1974. That study will be completed by November, 1974, and the results will be made available presumably before the end of this year.

Because of the spread in costs found by earlier studies, and because of the diverse nature of the twelve medical schools in this State, the eight private medical schools and all four dental schools were asked to participate in an identical study under contract with the same firm engaged in the SUNY project.

The Task Force believes that only with specific data from our own medical schools can rational and fiscally responsible proposals and requests be made for legislative consideration and action. The necessity for such a cost analysis is particularly critical in light of shrinking Federal resources and the controversy at the Federal and State levels concerning the appropriate funding of medical education.

The final data from the study of medical schools in New York State will be available, we are told, sometime early in 1975. This project is costing each institution an average of $25,000 in consultant fees plus an estimated equivalent amount of local effort.

The study will also shed light on the costs of graduate medical education, which we hope, will enable us to make recommendations concerning the financing of internships and residencies.

The Task Force is most mindful of the extremely limited resources available and knows that traditional medical schools are probably the most expensive to develop. Therefore, after the financial

and program data come in from this study, we will make recommendations concerning ways in which medical education resources in the State may be increased most rapidly and most economically while still preserving the high quality that exists in this State, and the final report of the Task Force will contain all of this pertinent information from the IOM Study.

Expansion of Undergraduate Medical Education

Beginning in the second half of the last decade, a massive program of expansion of undergraduate medical education (M.D.) was undertaken in the United States. During that decade, a number of public and private commissions had reached the conclusion that a physician shortage existed, a point of view which came into public focus as a result of the new demands upon the health delivery system consequent to the passage of the medicare act. Stimulated and aided by financial support from federal and state governments, public and private medical schools began to increase their enrollments, and new schools developed and began operation. In that period there was a national average annual increase in medical school places of 1.5% (1.3% per year in New York State).

During the period between the academic years 1966-67 and 1972-73, first year enrollment in medical schools in the United States increased from almost 9,000 to almost 14,000, a 56% increase. (In that same period, New York State first year enrollment increased from 1120 to 1501, a 34% increase.) By 1977-78, according to current estimates, this figure will be greater than 15,500, a nationwide increase of about 73% over 1966-67.

The expansion of public medical education in the nation has been more extensive than private, though both sectors have made major contributions to the total. The following figures summarize the situation:

TABLE 10

Comparison Between New York and United States
Public and Private Medical Schools

	Public Medical Schools				Private Medical Schools			
	Number of Schools		First Year Enrollment*		Number of Schools		First Year Enrollment*	
	U.S.	NYS	US	NYS	U.S.	NYS	U.S.	NYS
1966-67	46	3	4,830	416	43	7	4,134	704
1972-73	64	4	7,521	501	48	8	5,939	1000
Increase	18	1	2,691	85	5	1	1,805	296
Percent Increase	39%	33%	56%	20%	12%	14%	44%	42%

Footnote: *In any compilation of enrollment figures, differences of 1 to 2% are common, resulting from the fact that time of reporting varies from survey to survey.

The expansion of enrollment in New York State is being accomplished at a similar rate and pattern to that in the United States; it involves the existing schools as well as the two new schools, one public and one private.

An important factor in the over-all result was a decision by the State to contract with private schools to undertake a major expansion. Contracts were written between the State University and the schools providing for the support of these programs in the amount of $6,000 for each additional student enrolled, over the average

number of students enrolled during the years 1961-66, to a maximum of 25 students per class in each school for five years beginning in 1967-68. In addition to this support of operational costs, matching capital funds for expansion of facilities were made available according to a formula that made available between two and five million dollars in State aid monies for capital expansion for each private school depending on student capacity.

These contracts (which were transferred to the State Education Department by legislative action in 1973) were due to expire at the end of the 1973-74 academic year, but legislation recommended by the Regents in 1974 extended operational support for an additional year and authorized continuation of entitlement to construction funds for schools which had previously been unable to make full use of this provision of the contracts.

In recommending extension of contractual aid, the Governor stressed the interim nature of this action in anticipation of recommendations by the Regents' Task Force for a more permanent formula for State aid to the private schools. (In addition to support under the contracts, the State currently provides fiscal support to the schools through two other major programs: Bundy support at the rate of $3,000 for each M.D. awarded and capitation payments at the rate of $1,500 for each student enrolled exclusive of those covered in the expansion contracts with appropriate inflation for students enrolled in time shortened programs. The law enacted in 1974, upon Regents recommendation, authorized the increase of capitation awards to $2,500 for students in the third and fourth year

classes to encourage expansion by enrolling more upper-division transfer students.)

Although the expansion of enrollment in the three previously existing medical schools in the SUNY system has been less extensive than that in the seven existing private schools, the State made a large commitment to increase the public school role by establishment of the campus at Stony Brook. The medical school at Stony Brook is still in the process of development, and appropriate funding of that school and the three older SUNY schools will permit realization of the vitally needed full potential of each of the medical schools in the State University system.

As plans are developed to increase medical school capacity, adequate funding for capital and operating programs will have to be provided. Preliminary analyses suggest that none of the twelve schools in the State can expand their enrollments even up to projected levels (Tables 7 and 13) without additional funding. Again intelligent recommendations based on detailed analyses can only be developed using information that will not become available until after the cost study is compiled. Long term planning for medical school financing requires solid bases and continuity. We hope the data in our final report will provide the foundation for proper planning.

Expansion of Enrollment in Medical Schools in New York State in Relation to National Expansion.

Although the percent increase in medical school enrollment in New York State has been, and is, anticipated to continue to be somewhat below that of the national total, this must be viewed in the context of the position of New York State at the time the expansion

began. Thus, in 1966-67, the first year enrollment of the schools in New York constituted 12.5% of the national total (at a time when the population of New York State was approximately 9% of that of the nation). The fact that New York's share of first year enrollment has fallen to approximately 11% reflects in large measure the efforts by states whose starting position was of far lower order than that of New York and by those which hitherto had had no medical school at all.

It is, of course, obvious that the major effect of the enrollment expansion both in New York State and in the nation as a whole has yet to make impact upon the number of physicians in practice. Classes which entered in 1970-71 will begin to appear on the scene in another two or three years upon completion of residency training.

Geographic Source of Entering Medical Students.

Tables in the final report will show the geographic source of entering medical students in the schools in New York State and in the nation as a whole.

From data available it is apparent that aspiring medical students from New York, compared with residents of other states, fare well both in their own State and in the nation as a whole. In fact, in 1971 (which is typical of the past decade), New York had 1598 natives enrolled in first year classes of United States medical schools and only 1496 positions in its own twelve medical schools. From the student standpoint, we are the major debtor state in the United States except for New Jersey, which is why any restrictive legislation based on state of residence would only jeopardise our position.

Thus, while New York absolutely and proportionately has the largest number of its students enrolled in medical schools in the United States, this is in part due to the fact that it remains a debtor state. The Task Force also notes that 13% of all the entering students in medical schools in the United States in 1972-73 were residents of New York State, which has approximately 9% of the population of the nation. In the same year, 64% of the students entering New York private medical schools and 87% entering public medical schools in the State were residents of New York State. For the nation as a whole 51% of students entering private schools and 89% of those entering public schools were from their home states. Thus, in 1972-73, 347 students from other states entered medical schools in New York State, and 675 New York State residents entered schools in other states.

While this problem and its proposed remedies will be dealt with in greater detail in the final report, it is mentioned at this time because legislation has been introduced over the past few years which attempted to restrict medical school enrollment to State residents. New York State residents would be severely restricted if all states enacted similar legislation even though we are blessed with the largest number of medical school places of any state in the country.

In the period 1955 to 1965 although New York State awarded 13% of the M.D.'s given in the United States, only 9.5% of all graduates of United States medical schools in the same period were found in

New York State in 1967. New York State therefore manages to retain only 74% of its "fair share", when the fair share is defined as the same proportion of physicians graduating from United States schools as are produced by that State. Actually, only 35% of the graduates of New York State schools (and this is not dissimilar to that of other states) settle in the State. The other half of the United States graduates who settle in New York State were graduated from schools in other states of the United States.

TABLE 11

U. S. Medical Schools
1955-1965

Graduates by State of Graduation
and Current State of Practice

	All U.S.	Only N.Y.S.	N.Y. as % of U.S.
Currently practicing physicians graduated 1955-1964 from medical schools located in	68,623	8,822	12.8%
Physicians who graduated from U.S. medical schools 1955-1964 practicing in	68,623	6,500	9.5%
Percent of Total	100%	74%	

Source: C. Theodore, et al., Medical School Alumni, 1967, AMA, Chicago, 1968.

Earlier we noted that place of undergraduate (M.D.) medical education is one of the less significant events in physicians'

practice place choice. While there may be many reasons for increasing medical school enrollment in the State, from this data and other data available, this alone will neither increase the supply of physicians in New York State proportionately nor guarantee New York students greater access to medical education.

Graduate Medical Education

Graduate medical training (internship and residency), which is, of course, a vitally important part of the continuum of medical education, is of importance to the State because of the great amount of patient care (both in hospital and in out-patient facilities) which it provides. A strong house staff training program in a hospital is a major addition to the quality of care which the hospital provides to its patients who are assured of the 24 hour availability of these physicians.

Moreover, there is a strong correlation between the area in which a physician receives his graduate training and that in which he ultimately practices. Although a medical student may seek graduate training in a particular state because he is considering locating there permanently, others seek what they consider the best possible training program for which they can successfully compete, and ultimately decide to practice in the area in which that training took place. It is, therefore, in the State's interest to provide the greatest number of high quality graduate training programs which circumstances will permit. The quality of a program is determined by many factors and there is room for differences of opinion as to how it is best measured. But the fact that a program enjoys a strong competitive position among the pool of applicants says

much for its quality. There is strong feedback to medical students regarding assessment of a program's merits by their predecessors. These latter base their opinions on a number of factors including: the clinical ability of the staff physicians in the hospital; the dedication of time and effort by these physicians to house staff teaching; the quality of professional and ancillary services, etc.

Paramount among the ingredients which medical students seek in evaluating programs for their graduate training is undoubtedly the existence in a hospital of a strong educational program which in turn depends on the presence of a group of skilled clinical teachers who have not only the ability to teach and supervise but who are willing and able to devote the necessary time to house staff training. Teaching rounds take far more time than that necessary for patient care alone and the organization and conduct of conferences and other teaching exercises requires an additional allocation of staff time.

Although the training of house staff incorporates a large component of supervised clinical service by trainees, with increasing responsibility as training progresses, it becomes quickly known to prospective house officers whether a hospital uses interns and residents for large amounts of service and provides supervision and education in insufficient amount or quality. To mold a good program is an expensive process. It requires in most instances a cadre of clinicians who devote major segments of their time to instruction, and thus impinges on time which could be devoted to practice. Hospitals which are major teaching components of academic medical centers have, of course, the faculty available for undergraduate and graduate teaching and by virtue of this fact, internships and residencies in these

hospitals are highly competitive.

The cost of graduate programs to medical schools has been largely conjectural. Traditionally most direct costs have been borne by hospitals. It has been accepted as appropriate that such expenses as house staff salaries should be allocated to patient care because of the large service component involved in house staff activities. There are those responsible for third-party payment for hospital care who believe that the educational component should be removed totally from costs to patients. Because the process of education is so intimately interwoven with that of service, cost separation is difficult and, in the minds of many, pointless. In any case, proponents of the removal of educational costs from hospitals' reimbursement have yet made no substantive suggestions as to how educational costs should be met. Tables 9 and 12 indicate the level of graduate medical education in hospitals in New York State with and without various kinds of relationships to medical schools. Hospitals are in serious financial difficulty, caught between rapidly rising costs of salaries and wages as well as goods and services. At the same time they are subject to stringent controls and pressures to keep charges to patients down.

The Task Force recognizes the necessity for cost containment but is alarmed at the prospect of having vital graduate education programs diminished in quality or eliminated (because of the excessively high costs for redevelopment and replacement) in the interest of economy before acceptable alternatives can be developed. Because graduate medical education is so vitally linked to professional manpower the current situation is alarming.

While the Task Force will recommend the expansion of graduate medical education into locations where it is now lacking, we await results

Table 12

Approved First-Year Residencies Offered in
New York State by Specialty and Region

OPS Region	Family Practice General Practice	Internal Medicine[1]	Pediatrics[2]	Obstetrics Gynecology	Psychiatry Neurology	General Surgery	Surgical Specialties[3]	Anesthesiology Pathology and Radiology	All Others[4]	Total
				Number of Residencies[5]						
Upstate										
Western	12	38	18	13	15	41	15	36	14	202
Genesee-Finger Lakes	10	53	17	11	32	32	11	30	9	205
Southern Tier West	0	0	0	0	0	0	0	0	0	0
Southern Tier Central	0	0	0	0	0	0	0	0	0	0
Black River/St. Lawrence	0	0	0	0	0	0	0	0	0	0
Central	12	19	13	4	12	18	12	28	2	120
Southern Tier East	6	10	1	2	5	7	0	2	0	33
Upper Mohawk	0	0	0	0	9	0	0	0	0	9
Lake Champlain/Lake George	0	0	0	0	0	0	0	0	0	0
Upper Hudson	0	21	6	8	14	18	12	15	8	102
Mid-Hudson	3	13	3	1	33	11	0	6	1	71
Nassau-Suffolk	10	60	25	12	67	48	9	32	10	273
Upstate Subtotal	53	214	83	51	187	175	59	149	44	1,015
New York City	12	607	287	136	343	408	163	402	133	2,491
Total State	65	821	370	187	530	583	222	551	177	3,506
				Percent of Total Residencies						
Total State	2%	23%	10%	5%	15%	17%	6%	16%	5%	100%
				Percent of Registered Physicians in Indicated Specialty[6]						
Total State	18%	23%	6%	6%	14%	7%	7%	11%	7%	100%

[1] Includes all IM subspecialties as well as undifferentiated IM.
[2] Forty-five (45) pediatric subspecialty residencies are included.
[3] Includes neurological surgery, orthopedic surgery, urology, plastic surgery and thoracic surgery, colon and rectal surgery, nephrology.
[4] Includes dermatology, opthalmology, physical medicine and rehabilitation and preventive medicine.
[5] Compiled from: American Medical Association, Directory of Approved Internships and Residencies, 1973-74.
[6] Percent of Registered Physicians in Indicated Specialty calculated from survey. Responses grouped in as close a manner as is possible to residency class.

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of-survey materials and cost studies to identify the level of medical school involvement in, and responsibility for, graduate medical education. This will be discussed in detail in the final report after comparable cost and program details become available.

The Task Force believes graduate medical education is one of the key areas in the determination of physician manpower availability and allocation. If major shifts are to be made in graduate medical programs in order to modify specialty distribution within an acceptable period of time, it is probable that this will have to be accomplished by a nation-wide effort toward bringing supplies of specialists into conformity with needs by adjustment in graduate training opportunities once these needs are rationally established.

In a free nation which places high value upon freedom of choice of career, it is abhorrent to place restrictions on that choice. But in medicine, where, for a variety of reasons, the law of supply and demand operates too slowly to be effective or at worst does not operate at all, the public interest must be taken into account. Supply cannot be based upon accommodating aspirants goals alone, particularly when these often are formed with inadequate information about needs and opportunities.

Although there is much national ferment in regard to graduate medical education programs, there is not, as yet, any policy for monitoring or controlling the numbers of such programs, or training positions within them, or the specialties in which they are established. While the professional organizations have taken responsibility for monitoring program quality, no one has developed a cohesive plan for coordinating specialty mix, and this is one of the major reasons we have specialty maldistribution in all of the states. Despite rapidy increasing numbers, the distribution problem has grown worse in the last decade. We believe the Regents should consider bringing graduate medical education under the Master Plan process, in order that it may become responsive to the public need.

PROJECTED SUPPLY AND REQUIREMENTS FOR PHYSICIANS IN NEW YORK THROUGH THE YEAR 2000

One of the chief charges to the Task Force was to determine the supply of, and demand for, physicians in New York State. As mentioned earlier, there are no known universally acceptable criteria to measure the adequacy of supply, nor are there any precise measures of reasonable demand.

With information and knowledge about current and projected medical school capacity in New York State and by relying heavily on the SOAR methodology (Supply, Output and Requirements Project of DHEW[1]), we have developed a number of projections of physician manpower, using as a base detailed information about registered physicians practicing in New York State from the 1972 registration survey and AMA reports.

The models and conclusions presented in this section have been developed to respond to questions concerning adequacy of medical school capacity to meet manpower needs, an area which is still largely uncharted. With additional data, we may be able to refine some conclusions and recommendations, but we do not plan to develop regional physician staffing patterns. We do wish to make certain that the resources are capable of meeting the requirements.

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[1] U.S. Department of Health, Education and Welfare, Division of Manpower Intelligence, The Supply of Health Manpower, February, 1974, prepublication edition.

Projected Supply of Physicians from Expected Medical School Graduates and Registered Physicians

Graph I depicts physician supply projected through the year 2000, based upon eight different assumptions compared to the 1972 physician manpower situation in New York State and the projected change in the State population between 1972 and the year 2000. (Supporting tabular material is contained in Table 13.) Graph II traces the curves that would be produced by these eight assumptions through the year 2000.

Basically, we have tested three sets of hypotheses.

1. What would happen if no additional foreign medical school graduates were added after this year.

2. What would happen if new foreign medical school graduates continue to be licensed in New York State at the same rate they are currently being licensed (1,450 per year).

3. What would happen if foreign medical school graduates continue to be licensed but at a decreasing rate from 1,450 down in 1990 to 380 (which is 10% of the most recent lowest Federal estimate).

The above three assumptions, relating to the foreign medical graduate, were then played against:

a. No growth

b. 1.5% annual growth

c. 2.7% annual growth in the total medical school capacity for every year after 1984.[1]

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[1] The 2.7% rate of medical education expansion was tested because that is the factor the Federal Government used in their high series. It approaches the rate that would be needed to begin to diminish the need for foreign medical school graduates. Also, it is the rate that medical education expanded during the period of extensive Federal funding in the United States. The 1.5% annual rate of growth approaches the

Thus, assumption 1 on Graph I shows what would happen if after 1974 no additional foreign medical school graduates were added to the supply of available physicians in New York State, and the medical schools did not grow beyond currently expected capacity. In fact, there would be a decrease in the rate of physicians to population from 205 in 1975 down to 190 by the year 2000 under this assumption.

The second assumption indicates what would happen if no FMG's were added to the State supply after 1974, and the medical school capacity after 1985 were to grow at 1.5% annually (a 10% plus increase between 1985 and 1990) but the State only managed to "capture" 74%. (its present rate) of its fair share of output.[1] Under this assumption, the rate of physicians per 100,000 population would decline from 205 per 100,000 in 1975 down to 196 per 100,000 in 1990, and then would begin to climb again.

The third assumption reveals what would happen if medical school growth proceeds as planned, and after 1984 the graduating class size grows annually at 1.5% and "all"[2] graduates stay in

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(continued from page 48)
experience of all states during the 1950's and 1960's, before massive infusions of Federal money were available. (New York State in that period hovered around a 1.3% annual class size growth rate.) We expect that both Mt. Sinai and Stony Brook will reach full maturity by 1984, and we have information from all the medical schools (based upon their current enrollments and near future plans) regarding the sizes of their graduating class we can expect if no changes are made in current plans.

[1] See Table 11.

[2] Statistically "all"—i.e., we would gain the same number of United States graduates as those which we lost from New York schools.

Table 13

NEW YORK STATE PHYSICIAN SUPPLY PROJECTIONS TO 2000

BASED ON EIGHT ASSUMPTIONS [1]

ASSUMPTIONS	Physician Rate per 100,000 Population for Selected Years [2]					
	1975	1980	1985	1990	1995	2000
1. Schools grow as planned. No additional places are added after 1985 but graduating class size remains at the 1985 level of 171c. No new FMG's are added after 1974, and we retain only 74% of the graduates.	205	200	195	193	191	190
2. Until 1984, graduating classes grow according to plan. After that classes grow at 1.5% annually. The State only captures 74% of its output and no new FMG's are added after 1974.	205	200	195	194	196	200
3. Medical school graduate classes increase as planned, and after 1984, total State graduating class grows at 1.5% annually. They "all" stay in N.Y.S., and no new FMG's are added after 1974.	210	213	217	222	230	241
4. Until 1984, total State graduating classes increase as planned, and after 1984, they grow at 1.5%, but N.Y.S. only keeps 74% and FMG's are added in decreasing numbers from 1450 in 1974 to 380 annually in 1990 and beyond.	227	248	256	257	258	261
5. N.Y.S. schools grow at 2.7% after 1984. N.Y.S. only manages to capture 74% of its share of the U.S. graduate pool. FMG's are added in decreasing numbers from 1450 in 1974 to 380 in 1990 annually and every year thereafter.	227	248	256	258	262	271
6. N.Y.S. schools grow at 2.7% after 1984, and they "all" stay in N.Y.S. FMG's are added in decreasing numbers from 1450 in 1974 to 380 in 1990 annually and every year thereafter.	232	261	277	287	298	315
7. Until 1984, total State graduating classes increase as planned and after 1984, they grow at 1.5%, but N.Y.S. only keeps 74% and FMG's are added at 1450 per year each year through 2000.	227	253	274	293	312	330
8. Medical school graduate classes increase as planned and after 1984, total State graduating class grows at 1.5% annually. They "all" stay in N.Y.S., and 1450 FMG's continue to be added each year.	232	267	295	321	346	371

DATA REFLECTED IN ASSUMPTIONS PROJECTIONS

Graduating Class Size
Used to Develop Various Assumptions

Graduating Class Size Increased at Indicated Percent Annually After '64	Academic Years Ending						
	1970	1975	1980	1985	1990	1995	2000
at 1.5%	1101	1592	1597	1716	1848	1989	2143
at 2.7%	1101	1592	1597	1777	2029	2318	2648

ASSUMPTIONS	ESTIMATED CUMULATIVE NUMBERS OF NEW PHYSICIANS ADDED (Accumulated from 1974 to Indicated Year)			ESTIMATED NUMBERS OF PHYSICIANS WHO WILL BE ACTIVE IN NEW YORK STATE IN INDICATED YEARS UNDER INDICATED ASSUMPTIONS			
	1980	1990	2000	1980	1990	2000	
						Number	Percent
Assumption One	6,577	18,736	31,066	38,213	39,332	40,554	5%
Assumption Two	6,577	19,017	33,431	38,213	39,596	42,593	5
Assumption Three	8,888	25,699	45,177	40,816	45,336	51,343	5
Assumption Four	14,204	33,684	51,898	47,420	52,465	55,660	37
Assumption Five	14,204	34,008	54,336	47,420	52,766	57,758	36
Assumption Six	16,513	40,804	66,940	49,961	58,565	67,210	33
Assumption Seven	13,277	42,217	71,131	48,425	59,785	70,460	56
Assumption Eight	17,588	48,899	82,877	51,028	65,526	79,212	52

1 See Graphs I and II for graphic expression of these assumptions.
2 In 1973, the rate was 212 physicians per 100,000 people.

Sources and Explanations:
Populations: New York State Office of Planning Services, Demographic Projections. June, 1974 revision. (Low Birth Rate Series)
1.5% Growth Rate was the typical national rate during the decades of the 1950's and 1960's. During the same period, the mean New York State rate was 1.3%.
2.7% Growth Rate in Graduating Classes: U.S. Department of Health, Education, and Welfare, The Supply of Health Manpower. (Preublication edition.) High Projection.
Attrition 2.29% to 2.27% annually based on The Supply of Health Manpower and age distribution of N.Y.S. physicians, as shown in 1972 survey.
74% retention of graduates based on Table 11. Summary of C. Theodore, et al., Medical School Alumni, 1967. Chicago, American Medical Association, 1968.
Physician Base Rate: Projected from numbers of physicians registered and practicing in N.Y.S. in 1972 according to registration files and survey information.
Physicians are added to supply assumptions two years after graduation.

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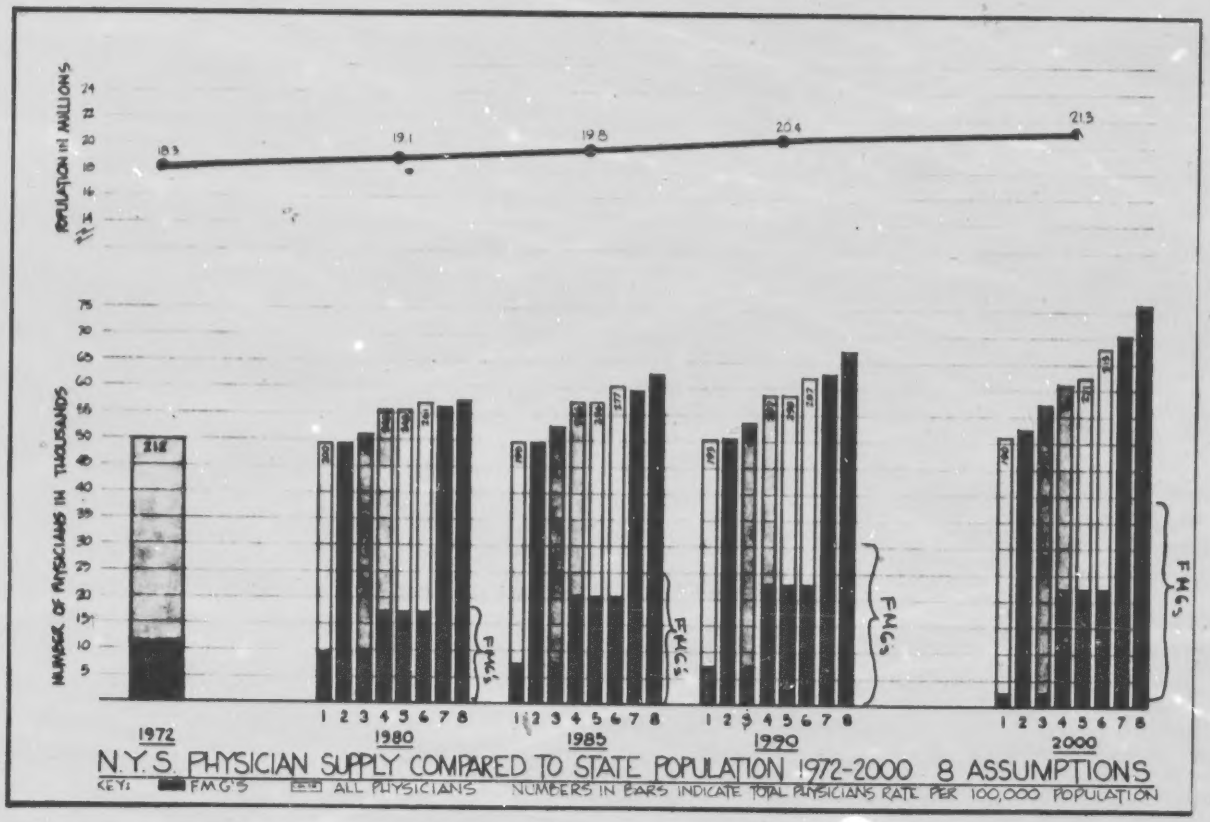
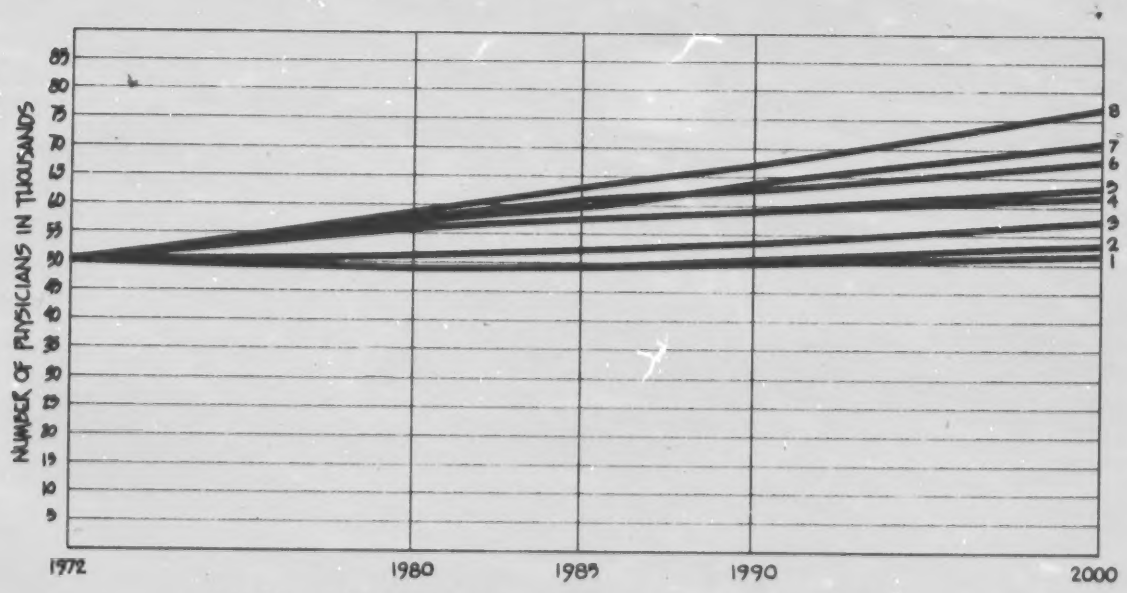
GRAPH I



GRAPH II



NYS PHYSICIAN SUPPLY 1972-2000

8 ASSUMPTIONS

New York State. This also assumes that no new FMG's will be added to the system. Under this assumption, we would experience a modest increase in the rate of physicians per 100,000 population, from 210 to 241, between 1975 and the year 2000.

Assumptions 4 and 5 project annual growth in the medical school graduating class of 1.5% and 2.7%, respectively, for 1985 and after, and both assume that the State manages to capture only 74% of its output and that the FMG supply shrinks from the current 1450 down to 380 in 1990 and beyond. Under both assumptions 4 and 5 there is a continuing rise in the ratio of physicians to population between 1975 and 2000, from a low of 227 to 261 under assumption 4, and from 227 to a high of 271 under assumption 5.

Assumption 6 shows what would happen if the schools grew at 2.7% annually after 1984 and all of the graduates stayed in New York State, and the FMG's decreased from 1450 to 380.

Under Assumptions 7 and 8, the annual level of FMG increase is held at the current 1450, and by the year 2000, under both of these assumptions, the FMG proportion of the total physician population would be 56%. The Task Force believes that both of these assumptions project unnecessarily high ratios of physicians to population, when compared with anticipated requirements; they also would produce an unacceptable ratio of FMG's to USMG's. However, they approximate New York State's share of FMG's based on recent high Federal estimates, as can be seen from a comparison with Table 14 and Chart III.

One of the limitations of Table 13 is that in it we assume New York State will either continue to lose 26% of its "fair share" or will keep "all" physicians it educates. The future will probably be between the two. Even if New York State makes a massive effort to keep a larger proportion of its graduating classes, we recognize that one of the State's exports is professional manpower. Thus, although we may keep 85% instead of 74%, we should not now project having 100% or 110% of New York State's collective graduating class. (The 85% is not one of the projection variables.)

Even at the most conservative State output projected -- 1.5% annual growth after 1985 in total in-State graduating class -- by 1990 we would need to have found about 130 additional medical school spaces for each annual graduating class above currently projected 1984 plans. This would require the twelve medical schools, if the 130 were distributed uniformly, each to take an additional 10 students beyond that which they currently plan to accept some time before 1985. Needless to say, growth could also be accomplished by the development of either additional clinical resources to be attached to extant schools or totally new institutions. Adding the goal deficit sooner than 1985 would mean reliance on FMG's could be phased out sooner or the goals would be achieved earlier.

Most Reasonable Supply Assumptions

The Task Force believes that assumptions 4 and 5 most closely approximate the supply that will be needed. Unfortunately, in both assumptions 4 and 5 the proportion of FMG's to the total number of physicians remains fairly high, at almost 40% throughout the projection

TOTAL PHYSICIANS REQUIRED BY 1990 IN N.Y.S. UNDER SEVEN ASSUMPTIONS COMPARED TO TOTAL THAT WOULD BE REQUIRED IN 1972 UNDER SAME ASSUMPTIONS.

(See Graph III for graphic expression of these assumptions)

ASSUMPTIONS	1972		1990	
	Total Numbers	Rate (per 100,000 pop.)[7]	Total Numbers	Rate (per 100,000 pop.)[7]
A. Current ratio is sustained	38,804[6] (actual)	212	43,300	212
B. Current ratio of all but primary patient care specialists is sustained but model primary care factors are applied.[4]	47,400	259	53,000	260
C. Primary care physicians, as defined by model are 50% of all physicians.[4]	49,400	270	55,600	272
D. Prepaid practice plan model.[3]	34,000	186	38,000	186
E. 10% of Federal projections for U.S.[4]				
1. Basic	32,400(31,200)[6]	177(170)	59,400(53,500)	291(262)
2. Low	↓	↓	55,700(50,100)	273(246)
3. High			63,700(57,300)	312(281)
F. 13% of Federal projections for U.S.[4]				
1. Basic	42,100(37,900)[6]	230(207)	77,200(69,500)	378(341)
2. Low	↓	↓	72,400(65,200)	355(320)
3. High			82,800(74,500)	406(366)
G. The region with the highest physician to population ratio N.Y.S. becomes 1990 N.Y.S. average ratio.[5]	43,900	240	49,000	240

[1] Source: Schonfeld, et al. "Numbers of Physicians Required for Primary Medical Care," New England Journal of Medicine, 3/16/72.

[2] AMA, House of Delegates, 1972, "...50% of all medical school graduates should enter primary care specialties..." (family practice, general practice, internal medicine, pediatrics and ob./gyn.)

[3] U.S. Department, H.E.W., Health Manpower Perspectives 1967, p. 75.

[4] U.S. Department, H.E.W., Division of Manpower Intelligence, The Supply of Health Manpower, February 1974, prepublication ed.

[5] U.E. Reinhardt, Health Manpower Forecasting: Current Methodology and its Impact on Health Manpower Policy, (unbound paper) Cambridge, Mass., May 1974, on pages 13 and 14 indicated that Yost had heretofore chosen Westchester County as the standard for projecting basic need.

[6] Numbers in A, E and F do not agree since the Federal projections are based on the AMA physician definitions which yield a substantially greater population than the registration file. This problem is described elsewhere in the report. In part, it's due to interns and residents and inactives. To make them comparable, the numbers in parentheses show what 90% (which is approximately what our current registration population is of AMA count) would look like.

[7] Population source: OBS (Revised 6/74) Demographic Projections 1972 est. at 18.3 mil., 1990 est. at 20.4 mil.

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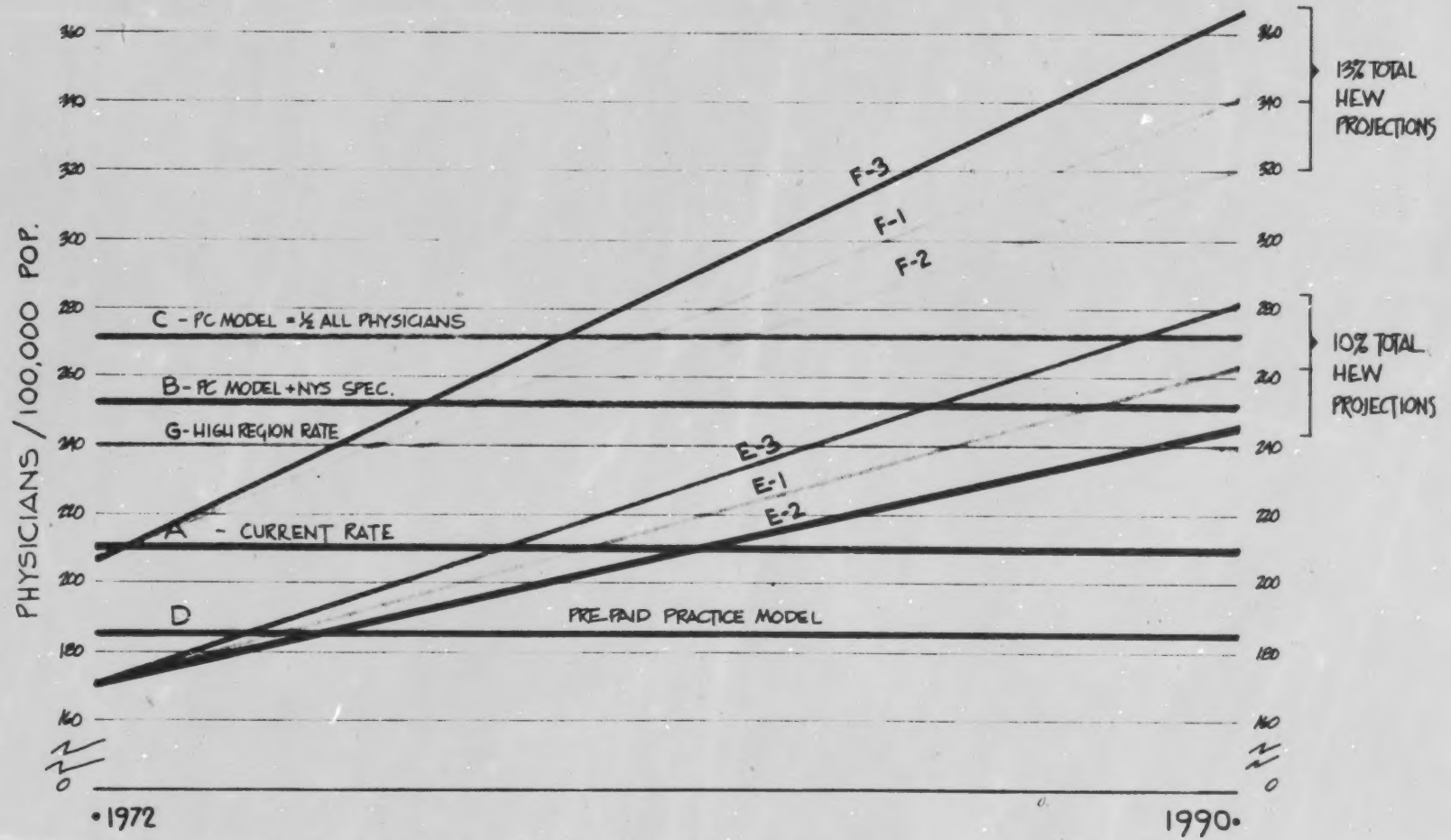

NEW YORK STATE PHYSICIANS

DEMAND/REQUIREMENTS PROJECTIONS

GRAPH III

period, as compared to our current situation. (Approximately 23% of New York State physicians now are FMG's.) It's conceivable that if some of the high Federal projections for other states come to pass, some of the places we are "reserving" for FMG's in these two models may indeed be occupied by physicians coming from other states.

We hope that some way can be found to achieve this level of physician to population ratio without such heavy dependence on the FMG component displayed under assumptions 4 and 5.

In summary, Graph I and Table 13 reflect potential growth within the structure of the twelve traditional medical schools we now have in the State. To the extent that non-traditional programs can be developed and receive approval, such as some of the proposed clinical medical school models, it is certain that we could begin to depress the FMG segment and possibly even effect a more rapid growth towards the desired goal. Thus, not only would we be able to produce more physicians sooner, but with the larger numbers that were produced we could achieve two major goals: reducing our dependence on the FMG pool and increasing the potential for educating primary care physicians.

How Do Supply Projections Relate to Need

The Task Force also has examined a number of assumptions about requirements. Since there are no universally acceptable criteria of physician need, a number of models have been developed. Some have been studied by other states along with comparative ratios of physicians to population.

Primary Care Assumptions

There is substantial evidence that the major need in the State is for many more primary care physicians. A group at Yale[1] has developed a relatively conservative model with which to estimate the need for primary care physicians. It is based upon a study of the physicians' time required to manage the anticipated incidence of acute and chronic diseases and conditions by age of population, and the level of treatment required by a hypothetical population of 100,000. After examining the Yale model, (used in Table 14, Assumptions B and C) for primary care, the Task Force believes that it is effective and thoughtfully developed. The goals it expresses are desirable and achievable. Furthermore, its yield is consistent with good experience--approximately 4.6 primary care visits per year per person, and patient demand for more United States primary care physicians, particularly in light of a potential increase of from 23% FMG to 57% in the next quarter century. Furthermore, its yield is fairly close to the model that is currently being used, with apparent satisfaction, in the Ontario system.

In Table 14 , under Assumptions B and C, New York State primary care physicians have been grouped to fit the Yale (Schonfeld) model. Combining survey and registration data, we have an estimated 16,100 practicing primary care physicians. (This includes those in family practice, general practice, pediatrics, and all internal medicine including sub-specialties.)

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[1] New England Journal of Medicine. 286:571-576 (March 16), 1972. Schonfeld, Hymen K; Heston, Jean F.; Falk, Isidore S. Special Article, - "Numbers of Physicians Required for Primary Medical Care".

According to registration and survey data, there were 38,900 registered physicians in New York State in 1972. Therefore, physicians in New York State other than practicing primary care physicians totalled 22,800, or 124 per 100,000 population. Amongst the 22,800 were administrators, researchers and others who provide no patient care at all.

Applying Yale factors to New York State population, we would have needed a total of 24,700 practicing primary care physicians, or, in other words, there was a lack of about 9,500. (The 9,500 is the sum of deficits.) One region (New York County) has 1,000 primary care patient care physicians over the Yale model. On the assumption that these 1,000 are "immovable" the sum of the shortages (i.e., 9,500) is used. (See Table 15.)

In comparing base line physician projections from survey data and from other data that the Task Force has collected, we have, for Schonfeld's models, included in primary care all internists whether or not they indicated a subspecialty. (Generally, the Task Force figures for primary care include only the internists who did not indicate a subspecialty. However, Task Force analyses generally include "ob/gyn" in primary care physicians; they are not so included here.) Thus, we are fairly conservatively calculating primary care shortages.

As further confirmation of the conservative estimate this represents, Schonfeld used a longer work year for pediatricians and internists than recent studies would support. Also, in computing the need for primary care physicians, Schonfeld does not provide for routine physicals or prenatal care.

Table 15

EVALUATION OF ADEQUACY OF SUPPLY OF
PRIMARY CARE PHYSICIANS

CPS Regions	Est. Primary Patient Care Physicians as % of all registered physicians in region[1]	Primary Patient Care Physicians by Regions using Yale[2] Criteria				Rate all other than Primary - Patient Care physicians per 100,000
		Available		Deficit		
		#	Rate/100,000	#	Rate/100,000	
Upstate						
Western	41%	908	66	- 949	69	94
Genesee Finger Lakes	41	765	70	- 673	62	101
Southern Tier West	52	149	55	- 223	83	51
Southern Tier Central	48	148	69	- 144	68	74
Black River/St.Lawrence	49	143	55	- 216	83	57
Central	38	468	61	- 544	71	99
Southern Tier East	43	316	65	- 345	71	85
Upper Mohawk	45	210	64	- 249	76	78
Lake Champlain/Lake George	51	157	75	- 129	62	74
Upper Hudson	40	646	68	- 628	67	103
Mid-Hudson	43	1,865	102	- 577	32	137
Nassau/Suffolk	46	2,174	83	-1,195	46	100
Upstate Subtotal	43	7,949	76	-5,872	56	100
New York City						
Bronx	45	921	63	-1,074	73	67
Kings	49	1,944	75	-1,579	61	78
New York	30	3,154	206	+ 998	(+65)	474
Queens	54	1,900	96	- 839	42	81
Richmond	44	241	82	- 152	52	103
New York City Subtotal	40	8,160	104	-3,644[3]	58[3]	157
Total State	41	16,109	88	-9,516[3]	57[3]	124

[1]Estimated from survey numbers those respondents indicating they engage in patient care in family practice/general practice, internal medicine (including subspecialties) and podiatrics as a percent of all respondents in the region.

[2]Schonfeld et al., op cit.

[3]Sum of deficits without subtracting New York County's surplus, measured against populations of areas with deficits.

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To meet the needs of its hypothetical population, the Yale group calculated that 133 primary care physicians per 100,000 population would be required. We have applied their factors to the age mix of our population, and because of New York State population age mix, this figure becomes 135 for us. This model would require almost 50% more of the number of primary care physicians than we have in the State today. There are about 22,800 specialists of other types practicing in New York State today. If these are added to the model requirements for primary care physicians, a rate of 259 physicians per 100,000 population would have been needed in New York State in 1972, as indicated in "B", Table 14. (The 22,800 includes administrators and others who may have recieved their training in primary care specialties who, though active, treat no patients.)

Other Requirements Assumptions

As can be seen on Chart III and in Table 14, a number of other assumptions of requirements have been examined including three series of Federal projections at two levels; all of these would require by 1990, ratios far in excess of those which we are currently projecting or which the Task Force believes are reasonable, as measured by assumptions 4 and 5 on Graph I.

Assumptions E and F:Proportion of Federal Projections

In their recent publication, The Supply of Health Manpower,[1] the Department of Health, Education and Welfare indicates New York

[1]Department of H.E.W., Division of Manpower Intelligence, The Supply of Health Manpower, February, 1974, prepublication edition, page 46, Table 10, for 1970.

State has 43,000[1] active physicians, and the United States has 323,000; thus, New York had 13% of the United States active physicians. For the same year, New York State's population was 18 million, the United States population was 210 million. Thus, 9% of the United States population was in New York State. (The 10% was arbitrarily chosen as an easy alternate assumption.)

To develop our assumptions E and F, we have computed 10% and 13% of the Department of H.E.W. estimates of available physicians in the United States.[2] Their three series were derived for the United States as follows:

(1) Basic projections: assumes a net yearly increase of 5,200 FMG's through 1990 and medical schools' capacities grow between 1.3% and 2.7% annually.

(2) High estimate: assumes that the 5,200 FMG's added to the United States roster in 1971 will rise to 6,600 per year and increase at that rate for every year through 1990.

(3) The low projection assumes that FMG's will increase at an average annual rate of 3,800 per year, the prevailing rate in the period from 1963 to 1970.

The Division of Manpower Intelligence of H.E.W. rejects the utilization of 8% annual FMG rate of increase as unlikely, after examining the total FMG pool.[3] This has been the rate, however, experienced nationally in the past few years.

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[1] As indicated previously, AMA statistics and New York State Education Department statistics concerning numbers of physicians do not agree.

[2] The Supply of Health Manpower, op.cit., p. 88.

[3] The Supply of Health Manpower, op.cit., p. 85.

Assumption G:High Region Rate

The physician to population rate currently extant in the mid-Hudson region was arbitrarily assigned as the mean New York State rate for 1990;[1] This figure is the basis for assumption G in Table 14. The mid-Hudson region, including Westchester County, has the highest physician to population ratio (240 per 100,000) of any region in the State outside of New York City. Patently this is an arbitrary factor, but Reinhardt[2] notes that:

> "It is well nigh impossible to offer an objective, universally agreed upon standard of the right number of physicians in a given population. There are simply no easily ascertained objective market criteria on which to hang such a standard. A survey of health manpower forecasting and the recent past suggests that current forecasting techniques are simply not up to this exacting task. Much empirical research is yet to be performed before forecasters will be able to furnish policy makers with precise point estimates sought by the latter."

Assumption D:Prepaid Practice Plans Model

Regarding Assumption D, we would be skeptical about a state's ability to develop the efficiency, for the whole of a state, that prepaid practice groups impose on perhaps five percent of a cohesive, selected population in the country. To develop this assumption, based on current conservative estimates, primary care was inflated to 80/100,000

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[1] U.E. Reinhardt, Health Manpower Forecasting: Current Methodology and Its Impact on Health Manpower Policy, (unbound paper) Cambridge, Mass, May 1974. On pages 13 and 14 indicated that Yost had heretofore chosen Westchester County as the standard for projecting basic need, on the assumption that "the most highly endowed region" can be regarded "as the culturally relevant standard for the nation as a whole."

[2] Ibid., p. 24.

(from 72.3). And we assumed (based on AMA statistics that office-based physicians equal 63% of the total when interns and residents are excluded) the proportion of prepaid practice physicians required is equal to the total number of office-based physicians. The remainder will provide services beyond the prepaid plans and services which the prepaid plans purchase.

We will watch HMO experiences with interest, and later may have more data on physician manpower efficiency implications of organized group practice.

Comparisons of Physicians' Supply and Requirements

For all assumptions on Table 14 it should be noted, even under the best circumstances, total numbers required at a given time and numbers needed to get there do not necessarily have a linear relationship. A disproportionately high segment of the primary care physician population is in the upper age bracket. Most of the regions with the greatest physician deficits also have the largest proportion of physicians in the upper age brackets. Therefore, identifying total requirements, and modeling ways in which total numbers of physicians can be produced, will not necessarily meet total needs. While the total ratios may seem adequate at the model level, we may find greater discrepancies between regions than are visible now.

Assumptions 4 and 5 come closest to meeting the projected needs by 1990 using the Yale model (as expressed in assumptions B and C, Table 14). As in assumption C, if we accept the primary care factor developed by the Yale group, and also an AMA House of

Delegates resolution that 50% of all medical school graduates should enter primary care specialties, then the rate per 100,000 would be raised to about the 272 level[1] (close to 10% above the supply levels of assumptions 4 and 5). If residencies settle at the 7,500 level and half are reserved for primary care, with 1250 in first year primary care residencies, then in 10 years we would produce 12,500 primary care physicians. (There are currently about 1,150 first year primary care residencies.) This would still be below the number needed for replacement (about 6,000)[2] and improvement (9,500), i.e., 15,500 in the next ten years. Thus, only by 1990 would we be able to close the primary care gap, if the residency pattern is as above, and if New York State could continue to attract large numbers of medical school graduates outside the State into new programs and keep the practictioners so trained. (See Table 15 for current comparison; of residencies and registered physicians.)

Impact of Physician Extenders on Physician Requirements

One of the ways to diminish necessity for the foreign medical school graduates in New York State may be by the more effective use of physician extenders (PE's). Some models have been studied and others are under continuing examination by the

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[1] The Task Force does not have as much data about need for specialists by level or type. If primary care supply meets the hoped for goals, we will still be subject to availability and preference for referred-to specialists. Professional specialist groups are about to decide their respective and collective optimal workloads and capacities. Thus, holding specialists, for projection purposes, to current levels is probably the most supportable and most prudent statistical projection decision at this point.

[2] During the next ten years, more than 6,000 New York State primary care physicians probably will die or retire.

Task Force for the impact on the productivity of physicians by extenders, depending on their availability and acceptance. Table 16 and Graph IV demonstrate their potential impact under a variety of assumptions. At the primary care level, P.E.s can be expected conservatively to increase physicians productivity by approximately 20%.[1] However, they are not currently available in adequate numbers and the rate of acceptance is slow.

New York State currently has eight educational programs for physician's associates, with a total annual output of 120 graduates. Currently, a total of 227 physician's associates are registered in New York State; approximately ten are graduates of approved out-of-state programs. There seems ample justification to expand these programs and to develop additional ones in order that primary care physicians may increase their efficiency and be available to more patients.

The nursing profession could become much more involved in the delivery of primary care if certain attitudes and problems could be resolved. If legally authorized, they could quickly be brought into the mainstream of primary care and have a considerable positive impact upon its delivery in this State. These persons should be recognized and legally able to do what they are, or will be, trained to do, but it is necessary first that minimal standards for such

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[1] Some have found that a 33% to 50% efficiency level increase can be effected by the use of P.E.s. However, we have chosen to use Reinhardt's conservative 20% for these modeling purposes. If, after extensive experience in the next decade, this proves too low, no harm will have been done, given current shortage levels. However, experience has shown that levels obtained in pilot projects frequently cannot be replicated in the full population on a sustained basis.

Table 16

Potential Impact on Physician Requirements Through Use of Physician "Extenders" with and without Increase in Demand using N.Y.S. 1972 Physicians - (33,930) i.e. 212/100,000 as Base

Assumptions regarding changes in demand - above those generated by population growth - and efficiency represented by increased use of PE's[1]	1990 Effective Phys./Pop.[6] (100,000) Rate	Number of Physicians	1990 Rate of Phys./100,000 Population Generated	PE's[8]	Diff. Between Average of Assump. 4 & 5, i.e. 52,500 Phys. & Phys. Need projected under indicated hypotheses
I. No increase in Demand	212				
A. PE at current rate 1 per office based physician		43,300[4]	212	27,400	9,200
B. PE at 2[3]		34,400	168	37,000	18,100
C. PE at 3[3]		32,200	158	48,900	20,300
II. 1% Annual Demand Increase	254				
A. PE at 1		51,900	254	32,900	600
B. PE at 2		45,300	222	52,200	7,200
C. PE at 3		38,800	190	58,800	13,700
III. 3% Annual Demand Increase[5]	382				
A. PE at 1		78,000	382	49,200	(25,300)[2]
B. PE at 2		60,000	333	78,800	(15,500)[2]
C. PE at 3		58,000	284	88,200	(5,500)[2]

[1] Excluding clerical (if clerical assistants were included from National (Reinhardt, op.cit.) then all the numbers would be 0.75 greater, i.e. 1.75, 2.75, 3.75).

[2] This is "surplus" over goal — all other numbers in this column indicate physician "savings" or efficiencies (i.e. fewer physicians needed) that would result compared to Graph I, goals 4 and 5.

[3] In this range Reinhardt assumes each P.E. above 1 reduces demand for physicians by 20% (i.e., at 2). Since indicated numbers assume there's already an average of one P.E. associated with and available to every office based physician nationally, we'd need 80% of office based physicians needed to provide same level of services that 100% of the physicians would provide at 1. P.E./office based physician.

[4] AMA, Distribution of Physicians in the U.S., 1972. 63% of N.Y.S. physicians are office based. (61% of U.S. physicians are office based). Thus, 134/100,000 equals current rate of O.B. physicians in N.Y.S. 70/100,000 - not office based.

[5] Reinhardt says there's historical evidence for a 3% annual rate of increase in demand for physician services.

[6] 1990 Projected population - OPS

[7] P.E. - is a convenient designation for nonphysician members of the primary care team — who can by performing selected professional activities — traditionally the responsibility of physicians — increase physicians effective patient workloads. This does not include allied health professionals employed in institutions and other settings such as radiological technologists, physical therapists, respiratory therapists, and medical technologists.

[8] At the P.E. levels, on Table 16 , 1990 goals could be achieved only if large numbers of nurses annually (i.e. 2,500 — 3,500/yr.) were given minimally twelve months additional post graduate clinical nurse residencies which would then qualify them for roles that would permit the hypothetical efficiency to be achieved. Because of the probable maximum of physician's associates output in the next fifteen years, even with the expansion of extant programs and development of new ones in all feasible locations would be about 5,000 accumulated.

Thus, any number over this would have to come from alternate educational sources and the current nurse education program is that which can most readily be anticipated to provide manpower for physician extenders with an indicated addition of a 1-year minimum clinical nurse residency. Capacity of and demand on nurse manpower resources seem adequate to meet this in addition to more traditional needs.

We recognize that a major proportion of the estimated 24,500 currently labeled physician extenders in this model are inadequately educated for the role they should perform to achieve maximum efficiency. In addition, clerical personnel, according to source data projections, would equal 19,000 on top of the 24,500 now thought to be performing some physician extenders professional health activities.

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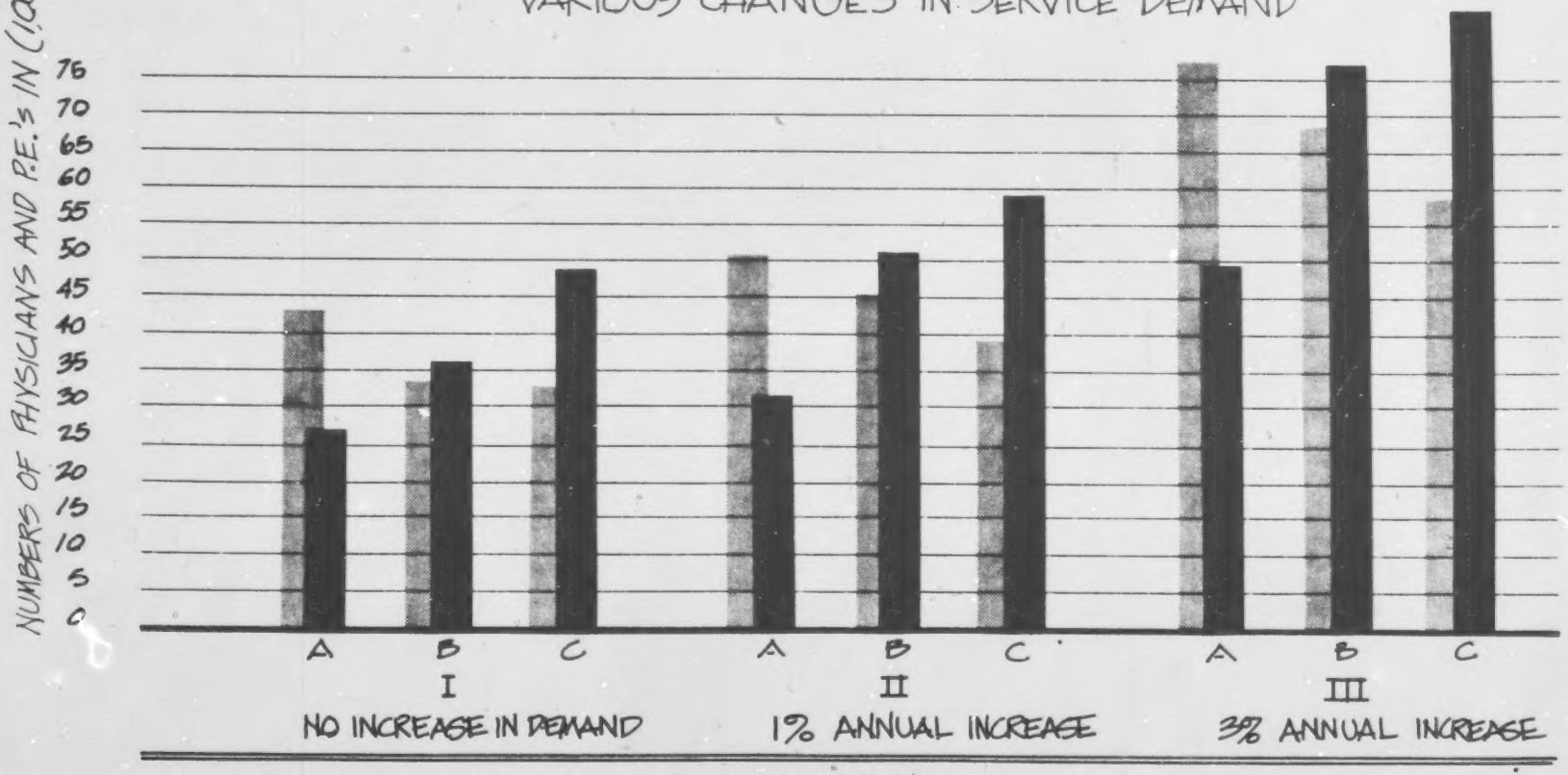
GRAPH IV

USE OF PHYSICIAN EXTENDERS

POTENTIAL IMPACT ON PHYSICIAN REQUIREMENTS

VARIOUS CHANGES IN SERVICE DEMAND



KEY ■ PHYSICIANS ■ P.E.'s A PE AT CURRENT RATE (1.75) B PE AT 2.75 C PE AT 3.75

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GRAPH IV

training and functions definitely be established. At the present time a wide variety of training programs with great variations in quality last from several weeks to twenty-four months. We urge the Regents to bring these problems and others to rapid solution, and that graduates of approved programs be registered for the delivery of primary care in accordance with the provisions of Section 6531 of Article 131A of the Education Law, either as it exists or with appropriate emendations.

New York State, along with others, has directed and provided extensive training programs for emergency medical technicians. Some other states have more comprehensive systems for providing access to and integration of emergency medical care. Such programs already are authorized under the Public Health Law for New York State, but there is inadequate funding for integrating the system to achieve maximum efficiency with appropriate communications networks between remote, underserved locations in the State and the nearest regional medical centers with ambulance service, helicopter service, etc. Efforts to achieve necessary funding levels should be supported, in order that primary care of an emergency nature may be made available to all residents of the State.

Drastic reductions could be made in the FMG component of physician supply requirements if, by 1990, 50,000 P.E.'s could be educated and effectively employed by primary care physicians. Since from National data we now have about 24,500 nonclerical physician extenders with various levels of training, and functioning in various capacities, we would need to increase their numbers and

acceptability (public and professional) and sharpen their roles and responsibilities to levels which seem doubtful of achievement in the next two decades. One limitation on our ability to use and absorb P.E.'s effectively is related to the numbers of new office-based physicians who will become available. New physicians will be more receptive and more likely to use P.E.'s effectively than those who have become accustomed to traditional practice.

Therefore, II-B on Table 16 and Graph IV seems the most optimistic expression of the potential effect of P.E.'s which could be anticipated for 1990 -- and since by then, from State sources we will probably have fewer than 5,000 physician's associates, even under the most optimistic expectations, the remaining 37,000 would then have to be nurses with post graduate special training for primary care.

At the 50,000 P.E. level FMG's could be reduced from the projected 39% level to 20% of total physicians -- or below our current level -- if all other growth characteristics in assumptions 4 and 5, Table 13 hold. To reduce dependence on FMG's otherwise, we would either have to depress demand for physicians, find a way to attract more United States graduates or substantially increase medical education resources above current projection levels.

Further study of availability of physician extenders and examination of costs of trade-offs will have to be delayed until fiscal data, yet to be collected, can be evaluated. Then we will be in a better position to make recommendations concerning physician-physician extender ratios.

Specialty Problems

There are many people grappling with the development of appropriate specialty ratios, and there is neither agreement nor comfort with most of the factors that have been developed; nor is there enough information available to persuade the Task Force to identify and/or suggest eliminating any of the existing graduate educational resources (residency programs) in the State. Thus, further refinements of requirements for other than primary care specialists will have to wait criteria development by professional groups and the Federal government. While the Task Force can and will identify needs for additional manpower, our assumptions are predicated upon the fact that change,such as greater proportions of primary care specialists, for the most part, can only be accomplished by additions to the system. It is clear from the almost universal expression of dissatisfaction from both the public and the profession that current ratios of production of specialists cannot and should not be replicated, (Table 12). The specialty boards have a professional obligation to study these problems and to make recommendations concerning appropriate adjustments in training programs.

Limitations in Our Ability to Achieve Supply Goals

In supply estimates, the enrollment projections have been inflated with full knowledge of the fact that many of the schools in New York State have indicated that already they have reached or exceeded the capacity of their current physical facilities and faculties. Projections do not indicate that each of the schools will or can grow by 1.5% annually, or that there will be an even

growth rate. If we accept the 1.5% or 2.7% inflation factors, the total class size of the twelve medical schools in the State would have to be increased by between 130 and 240 students beyond current plans or the equivalent of one or two new medical schools between 1985 and 1990. Under the 1.5% increase assumption by 1990, New York State will then be granting about 12% of the total United States M.D.'s; this is not far from the percent supplied by New York State currently and during the past few decades.

By the year 2000, at an annual inflation rate after 1985 of 2.7%, the total annual graduating class in New York State would be at the 2500 level. This approaches the theoretical maximum capacity of the State's clinical resources which is also one of the limitations in our ability to expand medical education in New York State. There are approximately 83,500 hospital beds in New York State (excluding those in State mental hygiene institutions and other like special or chronic care facilities). Therefore, the theoretical maximum medical school enrollment in New York State could be at the 14,000 level if all of the 83,500 beds were in acceptable institutions and the ratio of six teaching beds per student, (the current educational criteria) was retained. However, close to 21,000 beds are in small hospitals (those under 200 beds), so the maximum total class size for all medical schools in New York State is closer to 2,600. At that point, the graduate medical education system would be totally saturated. In order to get to that point, most of those hospitals would have to upgrade and increase their staffs very substantially. This would involve expensive and difficult recruitment, and it is unlikely that all of the hospitals, even

of this size, could be convinced to participate in programs involving the education of medical students. Program considerations, distance, and critical masses of students and faculty might also tend to reduce the model efficiency. Therefore, the class size of 2,100 that would be produced by almost doubling the 1970 graduating class size is perilously close to the State system's maximum capacity to provide adequate clinical experience.

An additional constraint on the system is the number of available graduate positions. Currently, 8,700 approved residencies[1] are offered in New York State. However, it is expected that this number will decline soon to around 7,500. With virtually universal graduate medical education of an average three year duration, at the 7,500 level, the theoretical maximum class size that could be accommodated in graduate training posts in New York State is 2,500. Again, this is not far above 1990 projections on Table 13 and Graph I.

Most Reasonable Assumptions

Assumptions 4 and 5 on Table 13 are most likely and most consistent with Assumptions B and C on Table 14, and II-B on Table 16. Therefore, the Task Force believes that 260 physicians per 100,000 population rate is both a desirable and achievable goal for New York State by 1990. Compared to our current situation, this represents a 23% increase in rate and a 36% increase in numbers of physicians, and accommodates an annual increase of 1% in demand

[1] With internships, there are more than 11,000 approved graduate positions in the State.

for service, above that which would be generated by meeting needs of the projected increased State population. With major increments in numbers of physician extenders used, and with an upgrading in their capability and acceptability, reliance on FMG's could be reduced substantially and still provide this effective physician service level.[1]

The Task Force, mindful of much activity at national and international levels in both professional and political arenas, feels that the most prudent plan, within available professional and fiscal resources would involve a rapid increase in total New York medical school class size capacity to the 2000 level. That is about 550 over our June 1974 graduating class size. This is an ultimate goal. From our study we believe this would not result in an oversupply. An increase of this magnitude would permit us to reduce dependence on FMG's sooner and accommodate larger numbers of New York State students.

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[1] As indicated earlier, the increment from 212 to 260 accommodates increases in primary care only, in our models. At this point, the Task Force is not recommending changes in the rates of other than primary care specialists providing patient care.

ALTERNATIVE WAYS TO INCREASE MEDICAL SCHOOL ENROLLMENT

In their 1972 Master Plan, the Regents asked that medical school enrollment "be doubled as expeditiously as possible." During the decade beginning in 1975-76, it is estimated that the average number of graduates that will be produced by medical schools in New York State will represent a nearly sixty percent increase over the average number of graduates produced during the decade ending in 1972, which immediately preceded the doubling statement. The decade beginning 1975 was chosen for comparison because this would be the first time any recommendations made by the Task Force could begin to be implemented. This nearly sixty percent increase will result from plans that are already underway. We have, as indicated, examined a number of supply and requirements assumptions. Our analysis points to the need for a total state class size goal of 2,030 by the year 1990 or sooner. That is almost double the 1970 statewide total graduating class size.

In order to achieve the 1990 goal, an average annual addition of 575 graduates will be required over the current (1974) graduating class size of 1456. (That is equivalent to the output of five mature traditional medical schools.) If existing schools continue to develop in accordance with their current plans, by 1985, the total State medical school graduating class size will be 1,720. There would still be a close to 300 graduating place gap to achieve the 1990 goal class size of 2,030. By what mechanisms could the goal be achieved? There are several alternatives, some desirable, others not. For example:

(1) We could build five additional medical schools at a current cost of about $200 million each and wait eight years before the first graduates emerged, and a minimum of four, and possibly seven, additional years until the schools reached full productivity. That possibility is both impractical and improbable since most of our manpower problems are critical now and, as was indicated earlier, at the present rate of financing, the eight private medical schools which produce more than two-thirds of our State's physicians would be bankrupt by 1985; three are in tenuous financial situations at this time. The investment of more than $1 billion and a delay of 12-15 years in order to achieve full productivity of such new institutions is obviously a completely unacceptable solution. Such an outlay of State or philanthropic monies could not help but impinge upon the support of the twelve existing medical schools, and would jeopardize their continuation at the expense of creating new institutions, or

(2) If each of the twelve medical schools expanded its upper division by ten students (on the average) in each of the clinical years, above that currently planned in order to accommodate United States students who are currently enrolled in foreign medical schools in COTRANS and Fifth Pathway programs, we could add 120 students to the graduate pool and reduce the long range goal deficit from 310 to 190. This alternative would certainly solve some of the problems of those students who have gone overseas for their medical education. We would increase the quality of the education of those students who are certain to come back and practice medicine in the United States and encourage them to settle in New York State.

(3) With adequate fiscal support, the medical schools could be asked to adopt some of the larger community hospitals in underserved areas. Such additional clinical resources could be upgraded to the level for teaching institutions and could be used to accommodate larger classes in the clinical years as well as to upgrade the quality of care available in these communities. If only six schools adopted hospitals which accommodated 20 additional students in each of their two clinical classes, then an additional 120 students could be added to the graduate pool above those currently planned. This also would reduce the goal deficit from 310 to 190. Obviously, if more than six schools participated, or more students could be accommodated in such additional affiliated hospitals, then the deficit would be further diminished and more United States students might be educated in an environment that is more likely to produce primary care practitioners than other specialists. Many of them, thus, receiving their training in underserved areas, might be induced to settle in these locations.

(4) In addition, we have knowledge of 20 proposals for a variety of new medical schools in New York State. The Task Force has met with proponents of four new programs at their request and will be meeting with others. Some of these proposals are excellent and viable. Some are well intentioned but impractical. Others are unreasonable and impossible. At least three of the new proposals would develop clinical medical schools similar to the British model, that is, offering only the instruction found in the clinical years in a traditional American medical school. Such programs most likely would be successful in existing institutions of high quality, with a history of excellence

in graduate medical education and the capacity for providing full clinical instruction in all of the major fields.

The current guidelines of the Liaison Committee on Medical Education, the accrediting agency for medical schools representing the American Medical Association Council on Medical Education and the Association of American Medical Colleges, do not permit the accreditation of two year clinical medical schools. It is our hope that this committee and their sponsoring organizations will be willing, at least on an experimental basis and for a limited time, to modify their policies. Just as medical schools must become more responsive to the public needs, ipso facto their accrediting bodies also must adjust policies which can match the reasonable needs of the public.

CONCLUSIONS

After lengthy and intensive study of the problems related to the charges of the Regents Task Force, the following conclusions have emerged at this time:

1. The twelve existing medical schools in this State are immensely valuable and irreplaceable State, National and World resources which can benefit directly or indirectly the health of all peoples; consequently, every effort must be made to protect their existence, their integrity and to maintain the quality of their programs.

2. Any long range funding proposals for medical schools should await the results of the cost analysis studies currently underway. Because these are not available to develop recommendations for this year's Regents legislative program, the 1975-76 funding of medical education should continue at least at the present level, and for any programs which may exhibit immediate perilous fiscal condition it will be necessary to provide emergency assistance above current levels.

3. For the foreseeable future, New York State needs an increase in the total numbers of physicians, and especially needs to expand significantly its output of primary care physicians.

4. The creation of new traditional medical schools would be very costly and there would be a delay of 12 to 15 years before they would reach full productivity.

5. In view of the unpredictable future requirements for physicians, it is wise to identify the short range (20 year needs) and to fulfill those needs as expeditiously and economically as possible with programs of inherent flexibility and which will also upgrade the quality of medical care in underserved areas.

6. It must be understood that the addition of programs and/or the expansion of existing programs in medical schools will require additional funding above present levels.

7. There is a limited reservoir of potential teaching facilities and skilled manpower which could and should be upgraded and integrated into the medical education resources in this State, thus expanding instruction potential at the clinical levels and improving quality of service.

8. Every effort should be made to facilitate a more equitable geographic distribution of physicians.

9. The specialty distribution, particularly of future physicians in New York State, should be monitored. Even before National criteria and programs are developed to guarantee that public policy is reflected in graduate medical education resources and deployment, it is necessary that the Regents monitor graduate medical education programs in New York State as they do all other graduate programs.

10. As rapidly as possible New York State should replace foreign medical graduates with United States medical graduates in hospital training programs. However, places should be available for exceptional persons from abroad who will return to their own countries after receiving unique specific training in the United States.

11. In order to correct deficiencies in the availability and quality of medical care in New York State, a wide variety of actions are necessary to be taken by the Regents of the University of the State of New York, the Governor and the State Legislature, other State departments and agencies, the State Board for Medicine, the medical schools of New York, the hospitals, the professional societies, communities, and individual citizens. The recommendations of the Task Force in this interim report should provide the beginnings for developing the needed multifaceted State-wide attack on the problems.

RECOMMENDATIONS

The Regents Task Force recommends that the Board of Regents of the University of the State of New York should:

1. Continue to be supportive of the medical schools in order to preserve their existence, their quality and their integrity.

2. Recommend that the funding of medical schools in the future be based on support for multiple components. Medical schools are complex national resources from which we all benefit, and as such deserve both Federal and State financing. The entire institution should receive unrestricted funding to a certain extent. Above and beyond that basic funding, additional monies should be based upon capitation in medical and in allied health programs, and upon the kinds of programs developed or expanded to help meet the goals of the Regents.

3. The Regents and other State officials should urge the Federal government to accept the recommendations of the Institute of Medicine of the National Academy of Sciences (whose cost study it commissioned) and to provide Federal funds to support "capitation grants ranging between 25% and 40% of net education expenditures..." to "contribute to the financial stability of public and private health professional schools..."

4. Support worthwhile experimental programs in medical education and urge the Liaison Committee on Medical Education of the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association, the accrediting body for medical schools, to

give serious consideration to granting accreditation, at least for a limited period of time, to such institutions or programs.

5. Approve the creation of the equivalent of at least two, and possibly three, clinical medical education programs using institutions presently with teaching hospital capability and potential.

6. Encourage implementation of an arrangement now under consideration between the Champlain Valley-Physicians Hospital Medical Center in Plattsburgh, the State University of New York, and the University of Vermont in order to expand the medical education opportunities and upgrade the quality of services available in that area.

7. Adopt as a policy that, as the numbers of United States medical graduates increase, the numbers of students in COTRANS and Fifth Pathway programs will decrease accordingly, to the end that transfer programs will be phased out completely, and as the State no longer needs to rely upon graduates of foreign medical schools to staff its institutions and provide the necessary patient care, licenses to foreign medical graduates will be granted only on exceptional grounds.

8. Exert their influence in the field of graduate medical education, a significant educational area which has so far been permitted to operate in a laissez faire environment, by bringing graduate medical education under the Master Plan procedures.

9. Encourage all of the specialty boards, the American Board of Medical Specialties, and any necessary Federal agencies to undertake a study of the needs, present and projected, for each specialty in light of

population projections and to provide a rational basis for adjustment in the numbers of positions for training in the various specialties.

10. Require the immediate development of a formal curriculum and compensatory training programs for the education and training of nurse clinicians/nurse practitioners in primary care, in order to ensure that graduates of all such programs have uniform capabilities, education, and training. Nurses with such education and training could be legally registered to provide primary care under existing article 131-A, Section 6531 of the Education Law, with or without some modification specifically to include the primary care nurse.

11. Seek both Federal and State monies to support and expand existing programs for the training of physician's associates and primary care nurses.

12. Request financial support for, and assist the State Health Department in the development of statewide programs for the training of emergency medical care personnel and for the registration of Emergency Medical Service Technicians under the existing specialist's assistant category of Article 131-A, Section 6531, of the Education Law. These programs are already in Article 30 of the Public Health Law, and additional financial support to the State Health Department is necessary for their implementation.

13. Recommend that an office or agency be established either in the State structure or on contract, for example, with the Associated Medical Schools of New York and New Jersey, to provide an efficient, centralized application system for New York residents to New York medical schools.

14. Change the time of the Regents Medical Scholarship Examinations to June from the following September, and make results available promptly for admissions committees prior to the time that they have filled their classes.

15. Advocate the establishment by the State or by contract with an appropriate agency of a "brokerage" office to help communities in medically underserved areas of the State to recruit physicians, to assist physicians to find appropriate practice settings, and to coordinate efforts toward these same goals with the existing agencies presently involved at minimal levels in these functions, such as the State Health Department and the Medical Society of the State of New York.

16. Encourage the development of practice patterns which will attract and retain physicians in underserved areas, and endorse the expansion of special incentives to practice in such areas, such as the forgiveness of educational loans, guaranteed annual incomes, etc.

17. Request the State Board for Medicine to consider the liberalization of endorsement policies for valid, unblemished licenses from other states for physicians desiring to practice medicine in New York.

18. Lend their influence to those agencies which might assist in the adjustment of malpractice insurance coverage in order to encourage physicians to remain in this State to practice full-time or to practice part-time, or to continue to practice after retirement from institutional, corporate, or medical school service.

19. Approve the recommendation of the State Board for Medicine for a minimum of two years of hospital training for both United States medical

school graduates and foreign medical school graduates before issuing a license to practice medicine.

20. Request the Legislature to revise Article 131, Section 6526, of the Education Law to require limited permits for all physicians who are involved in any kind of patient care, and who are not holders of unrestricted licenses or who are not enrolled in accredited training programs.

21. Request the Legislature and the Governor of this State to provide financial support for the expansion or development of new residency training programs in primary care in order to yield annually one hundred additional physicians from such training programs.

The Regents Task Force also recommends that the Regents should urge the twelve medical schools in New York State to:

22. Continue to make every effort to expand their enrollments in the first year. An average increase of ten students per school would result eventually in an additional output equivalent to another medical school.

23. Make every effort to expand their enrollments in the clinical division through COTRANS programs, and by granting advanced admissions to candidates who have passed Part I of the National Board Examinations.

24. Add or expand present Fifth Pathway places by upgrading community hospitals and other potential teaching facilities not used now for instruction of medical students.

25. Add and/or expand their programs in primary care; any expansions in specialized programs should be limited to those specialties involved

in the delivery of primary care: internal medicine, pediatrics, family practice and general practice.

26. Institute rigorous campaigns to recruit students into the primary care specialties.

27. Adopt community hospitals and/or other appropriate facilities for medical instruction. (Appropriate fiscal mechanisms must be developed to support any additional costs incidental to the addition of such educational programs.)

28. Be encouraged to develop more physician extender programs for physician's associates and primary care nurses.

29. Train medical students and allied health workers during their clinical experiences to function as a team.

30. Improve and expand programs in continuing medical education, with special attempts to include physicians who are not on staffs of hospitals with quality education programs and who do not hold memberships in local and state medical societies where continuing medical education programs are readily available.

31. Establish an early admissions program for New York residents to New York medical schools, especially to enable Regents scholars and other scholars to obtain early admission.

We present the thirty-one recommendations contained in the preceding pages at this time to initiate progress. By so doing we express concrete

concern for both the immediacy and the magnitude of the problems. None of our recommendations contained in this interim report will conflict with any recommendations which will appear in our final report.

In the final report we will expand many of the areas covered in this document with far greater detail to provide to the Regents, to other government authorities, as well as to the professional community the additional data supporting our conclusions, along with the financial information that will facilitate transforming our recommendations into effective action. And, additionally, we plan to discuss:

1. The possible utilization of alternate educational resources, such as clinical and basic sciences facilities outside of existing traditional medical schools.

2. Expansion capacities.

3. Cost "trade-offs" within current programs.

4. Scholarships, student funding and other means for sharing responsibility for the cost of medical education.

5. Other related topics.

To implement our recommendations new legislation, changes in legislation and in Regents Rules and Commissioner's Regulations will be required. Some of the needed legislation will have fiscal implications. To the extent that data are available to us, we stand ready to assist with the development of appropriate supporting materials.

LIST OF TABLES AND CHARTS

		Page
Table 1.	International Comparison of Reported Physician-Population Ratio, 1969	6
Table 2.	Physician Manpower per 100/000 Population Comparing State Rank Using Various Physician Bases, 1972	7
Table 3.	Distribution of Physicians N.Y.S. by OPS Regions	10
Map	Ratios of Physicians per 100,000 Population by County and Region	11
Table 4.	Number of Physicians Located in the United States...1959 and Percent FMG by State	16
Table 5.	Number of Physicians by State and Percent FMG, 1970	17
Table 6.	New Licentiates...1950-1972, and Percentage FMG	19
Table 7.	New York Medical Schools Enrollment and Graduates...	28
Table 8.	Number of Graduates...New York State Compared to...U.S.	29
Table 9.	New York State Medical Schools Compared -- Clinical Resources by Region, 1972	31
Table 10.	Comparison Between N.Y. and U.S. Public and Private Medical Schools	36
Table 11.	Graduates by State of Graduation and Current State of Practice -- "Fair Share" Comparison	41
Table 12.	...N.Y.S. Residencies by Specialty and Region	45
Table 13.	New York State Physician Supply - Projections	50
Graph I and Graph II	Physician Supply - Eight Assumptions Projections Compared	51

LIST OF TABLES AND CHARTS (continued)

		Page
Table 14.	N.Y.S. Physician Requirements Projected	54
Graph III	...Physicians Demand/Requirement Projections	55
Table 15.	Evaluation of Adequacy of Primary Care Physicians	59
Table 16.	Potential Impact...of Physician Extenders	66
Graph IV	...Physician Extenders Potential Impact...	67